

NEW



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The Nikon Camera Book

The independent guide to getting the most from your Nikon

For all
Nikon
users



Cameras & kit • Advanced techniques • Editing guide • And more...

Welcome to The **Nikon** **Camera Book**

Photography is one of the most popular pastimes in the world, and with Nikon leading the way in terms of technology and innovation, it's no wonder that its cameras are trusted by so many photographers. Although many other brands try to nibble at the market share, year on year Nikon remains a heavyweight contender, with a catalogue of cameras ranging from point-and-shoot compacts to professional DSLRs, so you can find the right camera. The Nikon Camera Book is the ultimate guide to getting the most from your Nikon, and in this Third Revised Edition, we will show you everything you need to know about your model. From the newest cameras and lenses on the market, to the best for different types of shots, you'll discover which one suits your needs best. We take you through advanced shooting techniques across a range of photographic genres, such as creating striking vistas and working with wildlife. We finish with essential advice on editing your Nikon-captured images, to give your photo that final touch for maximum impact.



The Nikon Camera Book

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Learn more about your camera with our handy guide

Guide to Nikon

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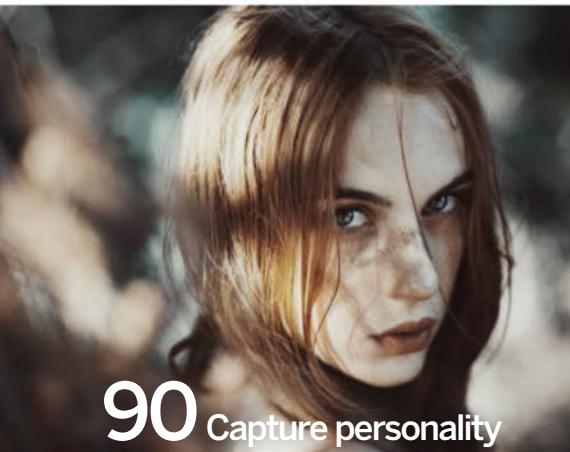
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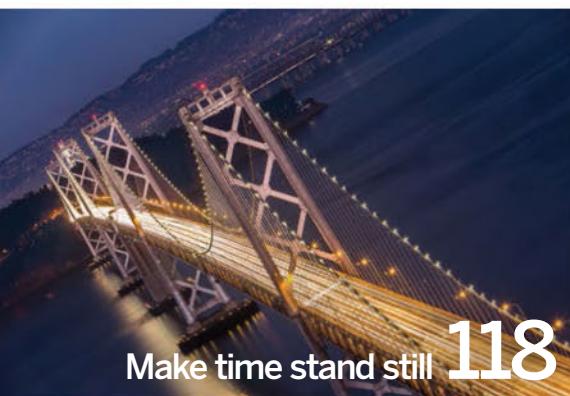




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Your Nikon camera

A guide to your Nikon camera

We get to grips with the big brand's top-selling models to
help you learn more about your camera



Although many brands try to nibble at the camera market share, Nikon remains one of the biggest contenders. Nikon has strategically launched an impressive array of shooters that cover every portion of the market to fulfil the needs of every target demographic. Nikon's D series DSLRs have become a popular choice for anyone from the enthusiastic novice to the seasoned photography professional. Time after time, consumers choose Nikon for its reputation for reliability, accessibility, high performance, superb functionality, impressive features and, ultimately, incredible image quality.

The company has come a long way since it launched the first professional DSLR, the D1, in

conjunction with NASA, but it has continued to build a tradition as a name photographers can trust. Today the company retail dozens of models, all exhibiting a variety of specifications perfectly crafted to fulfil the needs of a particular group. The first rung on the ladder for debuting camera users is the beginner or entry-level models, and currently fulfilling this demand are the easy-to-use Coolpix compacts and the Nikon 1 series of compact system cameras. Next up is the D3300 which has a built-in guide mode to aid the transition from compact to DSLR.

Then if you want to start taking your photography further you have the D5500, which has a few extra features to help you take more control. Moving

along the product line up is the prosumer model the D7200, which introduces higher-end technology in a tougher shell. Semi-professionals are dazzled by the full-frame D610, D750 and D810, with the latter having an incredible 36-megapixel sensor. Then you have the option of the astro-specialised 810A or the retro-styled Nikon Df, which takes the controls back to the days of film, with separate dials for things like exposure compensation. Finally the professional segment is completed by the D4S, touting the industry's finest photographic technology.

Across the next few pages you'll find in-depth guides to some of the best Nikon has to offer to help you make the best buying decision for you.

“Nikon has launched an impressive array of shooters that cover every portion of the camera market”





Despite the large size and weight of the D4S, it feels well-balanced in hand and the placing of the Nikon's buttons is intuitive

Nikon D4S

SRP: £5,200 / \$6,500
(body only)

How much has changed from Nikon's flagship D4? And is this camera the perfect kit you need to capture the action?

Technical data

Model	Nikon D4S
Price	£5,200 / \$6,500 (body only)
Web	www.nikon.com
Megapixels (effective)	16.2
Max resolution (pixels)	4928 x 3280
Sensor information	36 x 23.9mm CMOS
Shutter speed	30 1/8000sec
ISO sensitivity	A, 100-25600 (expandable to 50-409600)
Exposure modes	P, A, S, M
Metering options	CW, S, M
Flash modes	A, RE, RE+SS, SS, high-speed sync, front-curtain, rear-curtain
Connectivity	USB, HDMI, Optional wireless
Weight	1,350g
Dimensions	160x156.5x90.5mm
Batteries	Rechargeable Li-ion
Storage	CompactFlash, XQD
LCD	3.2", 921K-dot TFT, fixed
Viewfinder:	Optical, 100% coverage, 0.7x magnification

There's always a lot of excitement with the arrival of a new high-end camera and the Nikon D4S was no exception. People were disappointed when they realised it's a modest upgrade from the D4 – perhaps the biggest letdown was the continuation of the same 16MP sensor. However, with this upgrade there are subtle changes that improve both performance and image quality.

The D4S is a big camera but it feels lighter when you pick it up as it's so well-balanced. It's solid and feels as if it could survive a knock or two. On the whole, ergonomics are excellent, with logically laid out controls. The viewfinder is clear and bright and, while large enough, it is smaller than the one on its main competitor, the Canon 1Dx.

Tweaks have also been made inside the weather-sealed, magnesium alloy body. The processor was upgraded to the EXPEED 4, which enables the D4S to continuously focus at the highest frame rate of 11fps, and expands the ISO range to a huge 409600. Images are understandably noisy at the highest ISO settings but up to ISO 3200, noise isn't an issue.

Autofocus performance has also been refined, with the reintroduction of the Group AF mode, allowing users to specify five points to focus on, rather than one. The algorithms have been improved, so that AF

is less likely to be distracted by objects crossing a subject. In our tests the AF was very responsive.

Movie capabilities have been upgraded to 1080/60p recording. The LCD is clear, but suffers from the green cast seen on the D800 and D4, though the colour is adjustable. Live View still lags behind the competition, too, struggling in low light.

In general, image quality is excellent, with some areas, in particular dynamic range, being outstanding. The files are very sharp, with great clarity and detail, though with a tendency to smooth out textured surfaces. The Nikon's impressive dynamic range does cause a minor issue, which is that the tonal range of the RAW files is often far greater than the review histogram suggests. Auto white balance was disappointing, being slightly cool with hints of a cyan colour cast. This pricey camera might not tempt D4 users but is a worthwhile proposition for others.

Summary

While the D4 was already excellent, Nikon has made some incredibly useful tweaks with this interim upgrade in the D4S. Low light and sports photography fans will be well equipped here with this solidly built camera.

Nikon D810

SRP: £2,399/\$3,300 (body only)

Does this high-megapixel camera justify its price with quality?

Technical data

Model	Nikon D810
Price	£2,399/\$3,300 (body only)
Web	www.nikon.com
Megapixels (effective)	36.3
Max resolution (pixels)	7,360 x 4,912
Sensor information	35.9 x 24.0mm CMOS
Lens data	Nikon F bayonet mount
Zoom	Lens dependent
Focus/macro	Lens dependent
Shutter speed	30-1/8000sec
ISO sensitivity	A, 64-12,800 (expandable to 51,200)
Exposure modes	Auto, P, A, S, M
Metering options	CW, CM, S
Flash modes	A, Fon, Foff, RE, SS, RC, FC, RE-SS Auto, FP
Connectivity	USB, HDMI, NTSC
Weight	880g (without battery)
Dimensions	146 x 123 x 81.5 mm
Batteries	Rechargeable Li-ion
Storage	CF1, SD, SDXC, SDHC
LCD	3" 1229K-dot TFT, fixed
Viewfinder:	Eye-level pentaprism SLR

As the successor to the best selling D800 and D800E, the Nikon D810 is hyped on high-end specs ideal for serious shooters, and the camera takes its place as the high resolution option in the Nikon DSLR lineup. It features a 36.3MP FX-format CMOS sensor without an Optical Low Pass Filter for particularly sharp and detailed still imaging. With the addition of the EXPEED 4 Image Processor, performance speed is increased compared to the EXPEED 3 and noise is effectively reduced.

The D810's ISO range starts at ISO 64 for cleaner, better-defined images. You can shoot at up to ISO 12800, or extend the range from 32 to 51200 ISO (equivalent). The level of detail and sharpness, the wide dynamic range and rich tonality in nearly any light is simply staggering.

This model been optimised for video capture, and records in both FX and DX formats. What's more, wireless connectivity is offered for video and image transfer, pleasing the most technology-driven users.

Boasting the same AF system as Nikon's D4S, the D810 delivers the ultimate in high-resolution precision. Its resolution was certainly a game changer at the time of its release, and raised the bar for image quality and dynamic range. For professionals seeking the ultimate in DSLR image quality, the D810 delivers.



As the replacement for the D800 and D800E, the D810 promises to deliver even more detail with its large 36 million pixel count

Summary

When you pick up a D810 and spend an afternoon with it, you'll quickly understand that this isn't like other cameras. It's a model that should give you almost unlimited growing room as a photographer.

Nikon D810A

SRP: £3,000/\$3,800 (body only)

A high-resolution marvel designed exclusively for star-struck photographers

Technical data

Model	D810A
Price	£3,000/\$3,800 (body)
Web	www.nikon.com
Megapixels (effective)	36.3
Max resolution (pixels)	7,360 x 4,912
Sensor information	35.9 x 24.0mm CMOS FX-format
Lens data	Nikon F mount
Zoom	Lens dependent
Focus/macro	Lens dependent
Shutter speed	30-1/8000sec
ISO sensitivity	A, 200-12,800 (expandable to 51200 equivalent)
Exposure modes	P, A, S, M, M*
Metering options	Matrix, Center-weighted, Spot, Highlight-weighted
Flash modes	FCS, SS, RCS, RE, RE+SS, Slow RCS, FOff, Auto FP
Connectivity	USB 3.0, HDMI, 3.5mm Stereo mini-pin jack
Weight	880g (without battery)
Dimensions	146 x 123 x 81.5mm
Batteries	Rechargeable Li-ion
Storage	CF1, SD, SDXC, SDHC
LCD	3.2", 1229K-dot TFT, fixed
Viewfinder:	Eye-level pentaprism SLR

The Nikon D810A takes everything that's so great about the D810 and tailors it towards astrophotography, helping you to capture great shots of the cosmos easily. Featuring a redesigned infrared cut filter, the D810A is four times more sensitive to the deep red light from the H-alpha spectral line. This means that the true colours of nebula that emit a hydrogen-alpha wavelength can be recorded straight from the camera.

This isn't the only thing that helps out astrophotographers, as it also comes with a handy long-exposure manual mode too. Using this option you can set up to 900 second exposures to capture the night. You can also set a preview for shutter speeds over 30 seconds to help you focus and adjust the composition using live view. To help combat blur you can use the camera's electronic front-curtain shutter too.

With an ISO range of 200-12,800 (expandable to ISO 51,200 equivalent) you're able to shoot in dark conditions and the 36.3MP FX-format CMOS sensor (without an optical low pass filter) will capture high-resolution images to bring out all the detail in the night sky. There's also no limit on the amount of shots that can be fired continuously, helping you gather as many shots as possible for perfect star trails.



Capture high-resolution images of nebula, star trails, the Milky Way and more with this professional camera

Summary

This is a niche product, and at £3000/\$3800 (body only) you should be serious about astro before making the investment. With its IR cut filter and high-res sensor, it will deliver incredible results for that genre, however.



The D750 borrows elements from both the more affordable D610 and the pro-grade, high-resolution D810

Nikon D750

SRP: £1,799/\$2,300
(body only)

Nikon leads the way with the world's first full-frame DSLR featuring a tilt-angle screen

Technical data

Model	Nikon D750
Price	£1,799/\$2,300 (body only)
Web	www.nikon.com
Megapixels (effective)	24.3
Max resolution (pixels)	6016 x 4016
Sensor information	35.9 x 24 mm CMOS FX-Format
Lens data	Nikon F mount
Zoom	Lens dependent
Focus/macro	Lens dependent
Shutter speed	30-1/4000sec
ISO sensitivity	A, 100-12,800 (expandable to 50-51,200 equivalent)
Exposure modes	Auto, P, A, S, M
Metering options	Matrix, Center-weighted, Spot, Highlight-weighted
Flash modes	A, A+RE, AutoSS, AutoSS+RE, Fon, RE, SS, SS+RE, RC+SS, RCS, FOff, Auto FP high-speed sync supported
Connectivity	Hi-speed USB, HDMI, 3.5mm jack, Wi-Fi
Weight	750g (without battery)
Dimensions	140.0 x 113 x 78mm
Batteries	Rechargeable Li-ion
Storage	SD, SDHC, SDXC
LCD	3.2", 1229k-dot TFT, tilting
Viewfinder:	Eye level pentaprism SLR

The D750 brings dazzling image quality, cinematic video capabilities and pro-inspired handling with a tilting LCD and built-in Wi-Fi. Enthusiasts who are upgrading from a DX-format DSLR will marvel at the D750's excellent full-frame performance. Likewise, pros seeking a secondary camera for fast-paced shoots will appreciate the D750's familiar handling and speed, yet it comes at a lower price point to the D810. Other elements such as its small and lightweight design make this a versatile camera second camera, or a model really suitable for travel photographers.

The tilt-angle screen lets you shoot from more awkward angles, even if the viewfinder will more likely be a pro's viewing choice. It tilts up 90 degrees and down 75 degrees, allowing more interesting perspectives. Its design includes a deep grip for greater purchase on the camera when shooting one-handed and the carbon-fiber and magnesium alloy construction also feels sturdy.

Nikon's D750 provides pros with a magnificent level of image detail and the effect of removing the anti-aliasing filter is noticeable in the step up in sharpness. The D750's FX-format 24.3MP sensor sits alongside an EXPEED 4 processor to produce high-resolution imagery with smooth colour gradations, and is said to offer fantastic high-ISO performance even superior to the D810. The ISO

ranges from 100-12,800 and is expandable ISO 50-51,200 equivalent and the camera doesn't disappoint, with images only beginning to show signs of damage at ISO 6400. To help in low light, there's a 51-point autofocus system that has a newly developed AF sensor module for smooth focusing even when the light gets low, as it's sensitive down to -3 EV.

It's not just a camera for low light shooters or travel photographers, though, as a continuous shooting rate of up to 6.5fps at full resolution is great for action too, and the Group Area AF mode monitors five different AF fields for improved subject detection. Video enthusiasts will benefit also from the 1080p/60p shooting where you can take control of the shutter speed, aperture and audio levels.

This camera also features built-in Wi-Fi. With this, you can wirelessly transfer and back up your shots, as well as use your smartphone or tablet to remotely control the D75. Simply download the Wireless Mobile Utility to get started and stay connected.

Summary

With built-in Wi-Fi connectivity, the D750 is designed for the contemporary image-maker, poised to benefit still photographers and videographers alike with the versatility and performance to match any working situation.

Nikon D610

SRP: £1,269/\$2,000 (body only)

The D610 offers up high-quality images in a body that's value for money

Technical data

Model	Nikon D610
Price	£1,269/\$2,000 (body only)
Web	www.nikon.com
Megapixels (effective)	24.3
Max resolution (pixels)	6,016 x 4,016
Sensor information	35.9 x 24.0mm CMOS FX-Format
Lens data	Nikon F mount
Zoom	Lens dependent
Focus/macro	Lens dependent
Shutter speed	30-1/4000sec, bulb
ISO sensitivity	A, 100-6,400 (extended 50-25,600)
Exposure modes	Auto, P, A, S, M, 19 scene modes
Metering options	Matrix, Center-weighted, Spot
Flash modes	A, RE, FF, SS, Fon, Foff
Connectivity	Hi-speed USB, HDMI, 3.5mm Stereo mini-pin jack
Weight	760g (without battery)
Dimensions	141 x 113 x 82mm
Batteries	Rechargeable Li-ion
Storage	SD, SDHC, SDXC
LCD	3.2", 921k-dot TFT, fixed
Viewfinder:	Eye-level pentaprism SLR

Within a few months of the D600's launch, a number of users began reporting that marks appeared at the edges of their images. After investigation it became apparent that the D600's shutter mechanism was faulty. As a result, the early D610 upgrade was announced.

On the surface, it's hard to distinguish the D610 from its predecessor and few changes were made. The D610's new shutter does offer 6fps high-speed shooting, as opposed to 5.5fps, and there's an all-new Quiet Continuous mode, capable of capturing up to 3fps. Nikon also made improvements to the Auto White Balance in the upgraded model, which means the D610 is more accurate when shooting under a range of lighting conditions. Some may be sad to see no Wi-Fi has been added, though.

Image quality itself is impressive, thanks to the same 24.3-megapixel full-frame CMOS sensor that was also inside the D600 and Nikon has opted to retain the anti-aliasing filter. The D610 is also adept at capturing good-quality stills in low light. With a solid ISO range between 100-6400 (extendable to 50-25,600), results are impressive with little apparent noise. In fact, noise only really starts to set in when you're working in ISO settings above ISO 1600 and only becomes destructive past the ISO 3200 point.



The D610 is a light, full-frame DSLR made of magnesium-alloy and poly-carbonate. The camera is also weather-proof and durable

Summary

The Nikon D610 offers photographers the opportunity to explore this 35mm-equivalent format without the heavy price tag, giving you professional-quality shots and good results even in low light.

Nikon Df

SRP: £2,049/\$2,750 (body only)

A retro-styled full-frame camera that's lightweight enough for travel

Technical data

Model	Nikon Df
Price	£2,049/\$2,750 (body only)
Web	www.nikon.com
Megapixels (effective)	16.2
Max resolution (pixels)	4,928 x 3,280
Sensor information	36.0 x 23.9mm CMOS FX-format
Lens data	Nikon F mount
Zoom	Lens dependent
Focus/macro	Lens dependent
Shutter speed	30-1/4000sec, bulb
ISO sensitivity	A, 100-12,800 (expandable to 50-204,800 equivalent)
Exposure modes	P, A, S, M
Metering options	Matrix, Center-weighted, Spot
Flash modes	PCS, SS, RCS, RE, RE+SS, slowRCS, Auto FP High-Speed Sync supported
Connectivity	Hi-speed USB, HDMI
Weight	710g (without battery)
Dimensions	143.5 x 110 x 66.5mm
Batteries	Rechargeable Li-ion
Storage	SD, SDHC, SDXC
LCD	3.2", 921k-dot TFT, fixed
Viewfinder:	Eye-level pentaprism SLR



The Nikon Df has a retro style and is even compatible with vintage non-AI NIKKOR lenses using a collapsible metering coupling lever

The Nikon DF stands out from Nikon's DSLR range with its pronounced retro stylings. This is a model designed for the photographer who wants to return to the roots of film photography, but retain the high-end advantages the digital world has to offer. Its angular body is Nikon's smallest FX camera at just 710g, and it features metal dials that control ISO,

shutter speed, exposure compensation, exposure mode and release mode. It can be a lot to get used to if you're not familiar with this type of system, but it offers precision, allowing you to slow the process down and take more control.

Its build incorporates magnesium alloy so it feels rugged and is also dust and weather resistant. There's also a large and bright glass pentaprism optical viewfinder that offers approximately 100% frame coverage and a 921k-dot 3.2-inch LCD monitor reinforced with glass to reduce reflections.

Other highlights include an EXPEED 3 processing engine that allows 5.5fps continuous shooting for up to 100 shots and an ISO range of 100-12,800 (extendable up to 204,800 equivalent). The 16.2MP FX-format sensor isn't the highest-resolution and there's no movie function, which allows the camera to be more streamlined.

Summary

A camera that landscape and still life photographers may find useful for getting back to the roots of creating art, the Df brings the precision and nostalgia of film photography into the modern era.



The Nikon D7200 is made of magnesium alloy and is weather resistant. It's a camera that's built to last

Nikon D7200

SRP: £940/\$1,200
(body only)

The top-of-the range DX camera delivers on both performance and features

Technical data

Model	Nikon D7200
Price	£940/\$1,200 (body only)
Web	www.nikon.com
Megapixels (effective)	24.2
Max resolution (pixels)	6,000 x 4,000
Sensor information	23.5 x 15.6mm CMOS DX-format
Lens data	Nikon F mount
Zoom	Lens dependent
Focus/macro	Lens dependent
Shutter speed	30–1/8000 sec, bulb
ISO sensitivity	A,100 to 25600
Exposure modes	Auto, 16 scene modes, 7 special effect modes, P, A, S, M
Metering options	Matrix, Center-weighted, Spot
Flash modes	A, A+RE, AutoSS, AutoSS+RE, FF, RE, SS, SS+RE, RCSS, RCS, Foff
Connectivity	Hi-speed USB, HDMI, 3.5mm jack, Wi-Fi, NFC
Weight	675g (without battery)
Dimensions	135.5 x 106.5 x 76mm
Batteries	Rechargeable Li-ion
Storage	SD/SDHC/SDXC
LCD	3.2", 1229k-dot TFT, fixed
Viewfinder:	Eye level pentaprism SLR

Sitting at the top of the DX range, you'll find the Nikon D7200. This came as an upgrade to the D7100, sharing many of the same features. Its sensor stepped up marginally from 24.1MP to a 24.2MP and still comes without an anti-aliasing filter for improved sharpness and finer details. Its body design remained the same too, but it's a design that works well, with a lock button on the mode dial to stop settings being shifted and a useful separate dial for drive modes. The top and rear covers are made from tough magnesium alloy and its textured body is easy to grip, as well as being dust, weather and drop resistant. This tough body comes with a 3.2-inch, 1,229k-dot LCD screen, which is fixed and not touch-sensitive, so it can't help you out at awkward angles. The eye-level pentaprism optical viewfinder offers 100 per cent coverage, though.

The processor has been updated from EXPEED 3 to EXPEED 4. The frame rate it's capable of producing remains at 6fps at full resolution or 7fps in 1.3x crop mode, however its buffer capacity has improved, meaning you can keep shooting for longer. Nikon states it's capable of capturing up to 100 JPEGs or 27 RAW files in one burst. As well as being able to get faster frame rates using the crop mode, it will also help you to get closer to your subject, almost doubling the telephoto effect, and it allows the focus points to cover the whole of the frame.

The Nikon D7200 has now inherited the Multi-CAM 3500 II 51-point AF system that focuses down to -3EV for lower light shooting, with 15 cross-type sensors in the centre. It now also has a native ISO range of 100-25600, up from the D7100's top end of ISO 6400, helping you to shoot even in extremely dark environments.

Movie enthusiasts can really get stuck into 1080p footage at 30/25p, and you can also shoot at 60p/50p when using the 1.3x crop mode. There's a dedicated menu just for movie options, making selecting settings a breeze and there's also a useful Zebra mode that allows you to see whether any highlight areas are blown out.

More and more cameras are coming with built-in Wi-Fi now for easy image sharing, and the D7200 is no different. However, it was also the first of Nikon's DSLRs to benefit from NFC. This lets you pair your camera with an NFC compatible device so you can simply touch them together to transfer images.

Summary

A high-end DX camera capable of professional imaging results, the Nikon D7200 is an all-rounder, packed full of useful features. If you're after a relatively affordable option that will still deliver, this is an essential buy.

Nikon D5500

SRP: £640/\$900 (body only)

An entry-level camera that packs in some very handy extra features

Technical data

Model	Nikon D5500
Price	£640/\$900 (body only)
Web	www.nikon.com
Megapixels (effective)	24.2
Max resolution (pixels)	6,000 x 4,000
Sensor information	23.5 x 15.6mm CMOS DX-format
Lens data	Nikon F mount
Zoom	Lens dependent
Focus/macro	Lens dependent
Shutter speed	30-1/4000sec, bulb
ISO sensitivity	A, 100-25600
Exposure modes	Auto, 16 scene modes, 10 special effects, P, A, S, M
Metering options	Matrix, Centre-weight, Spot
Flash modes	Auto, auto+RE, AutoSS, AutoSS+RE, FOn, RE, SS, SS+RE, RC+SS, RCS, FOff
Connectivity	Hi-Speed USB, HDMI, 3.5mm jack, Wi-Fi
Weight	420g (without battery)
Dimensions	124 x 97 x 70mm
Batteries	Rechargeable Li-ion
Storage	SD, SDXC, SDHC
LCD	3.2", 1037k-dot TFT
Viewfinder:	Eye-level pentamirror SLR

The Nikon D5500 is the company's higher entry-level camera, sitting above the D3300.

It shares many of the same features as its beginner brethren, but offers users the opportunity to add on extras for its slightly higher cost. To start with it comes with a 1037k-dot touch screen that's vari-angle, helping you shoot from unusual perspectives. As well as using touch controls to operate the camera, traditional buttons are still there; it is, however, a streamlined camera aimed at beginners, so the back isn't too cluttered up by physical dials - most of the controls can be accessed by tapping the i button. It's a small camera, so perfect for those not looking for anything too bulky; it weighs just 420g (body only), yet Nikon has still managed to include a pronounced grip.

Inside it packs a 24.2MP DX sensor without a low pass filter for extra sharpness, and an EXPEED 4 processing engine that helps the camera shoot at 5fps. A big advantage over the D3300 is its built-in Wi-Fi, allowing you to easily share your shots as well as shoot remotely. The maximum ISO setting of 25,600 is also a step up that lets you shoot in really dark environments and the 39 AF points with nine cross types gives more focus accuracy than offered on the D3300's nine AF points.



The new carbon-fiber monocoque structure helps keep the body small, yet the pronounced grip helps handling greatly

Summary

A great starter camera that keeps things simple while adding on useful features such as a vari-angle touch screen and Wi-Fi. It's certainly worth the extra money if those options would come in handy for you.

Nikon D3300

SRP: £489/\$650 (with 18-55mm VR lens)

With a guide mode to help you move up from compacts, this is one helpful camera

Technical data

Model	Nikon D3300
Price	£489/\$650 (with 18-55mm VR lens)
Web	www.nikon.com
Megapixels (effective)	24.2
Max resolution (pixels)	6,000 x 4,000
Sensor information	23.5 x 15.6mm CMOS DX-format
Lens data	Nikon F mount
Zoom	Lens dependent
Focus/macro	Lens dependent
Shutter speed	30-1/4000sec, bulb
ISO sensitivity	A, 100-12800
Exposure modes	Auto, P, A, S, M
Metering options	Matrix, Center-weighted, Spot
Flash modes	A, RE, SS, SS+RE, FF, RCSS, RCS
Connectivity	Hi-speed USB, HDMI, 3.5mm Stereo mini-pin jack
Weight	410g (body only)
Dimensions	124 x 98 x 75.5mm
Batteries	Rechargeable Li-ion
Storage	SD, SDHC, SDXC
LCD	3", 921k-dot TFT, fixed
Viewfinder:	Eye-level pentamirror SLR



The kit lens is the 18-55mm VR II: a light lens that retracts into a locked compact size

The first thing that strikes you about the D3300 is how compact it is – it isn't far off the size of some Micro Four Thirds cameras. Inside, however, it packs a 24.2MP DX sensor and EXPEED 4 processing engine, which delivers impressive image quality in addition to Full HD movie footage at up to 60fps. One of the biggest changes from the D3200, however, is the removal of the low pass filter, which

is used to control anti-aliasing issues. Removal of this filter enables more detail to be captured and is something that we had only seen higher end DSLRs like the D800 before.

The 11-point Multi-CAM 1000 autofocus sensor module does a good job of picking fast and accurate focus in most lighting, only hunting slightly in much lower light situations. It comes with 11 AF points (one cross type) and focusing modes are selected according to the shooting mode selected: spot focus for macro, area focus for landscape and so on.

The controls of the D3300 have been kept simple, as the three-inch rear LCD offers easy access to all the information required. The LCD also gives access to the various filter options and a guide mode, but is fixed and not touch screen. The biggest thing missing is Wi-Fi, however, which is disappointing given its target market at the entry-level user.

Summary

Beginners will fall for this affordable, lightweight option that walks you through advanced-level shots with its super-helpful Guide Mode. It will appeal to those undecided between a full-on DSLR and a smaller, more compact option.



Your Nikon camera: Enthusiast



The Nikon 1 J5 is a small but feature-packed choice, and you can even use F mount lenses via an adapter

Nikon 1 J5

£430/\$500 (with 10-30mm lens)

A compact camera that let you take more control of your shots without the need for a bigger model

Technical data

Model	Nikon 1 J5
Price	£430/\$500 (with 10-30mm lens)
Web	www.nikon.com
Megapixels (effective)	20.8
Max resolution (pixels)	5568 x 3712
Sensor information	13.2 x 8.8mm CMOS CX-format
Lens data	Nikon 1 mount
Zoom	Lens dependent
Focus/macro	Lens dependent
Shutter speed	30.1-16,000sec, bulb
ISO sensitivity	A, 16-12,800
Exposure modes	Scene auto selector, P, A, S, M
Metering options	Matrix, Center-weighted, Spot
Flash modes	A, A+RE, FOn, FOn+SS, RE, RE+SS, RCS, RC+SS, FOff
Connectivity	Hi-Speed USB, HDMI, Wi-Fi, NFC
Weight	231g (body only)
Dimensions	98.3 x 59.7 x 31.5mm
Batteries	Rechargeable Li-ion
Storage	MicroSD, microSDHX, microSDXC
LCD	3", 1037k-dot TFT, tilting
Viewfinder:	None

If you're after a good level of control in a truly portable body, the Nikon 1 J5 could well be for you. At just 231g (body only), this camera comes with many manual features to help photographers get the right result, while being small enough to fit into a handbag or large pocket.

Nikon has opted for a very in-fashion retro design for this version, with a plastic construction that still looks the business. To give you quick access to manual settings, the manufacturer has gone with a mode dial on the top plate and dual dials for easy settings changes, giving DSLR users familiar controls.

You can, of course, also control the camera through the three-inch touch-sensitive screen. This is a 1037K-dot LCD screen that can flip 180 degrees, during which Selfie mode and face detection automatically come on to help with self portraits. There's no viewfinder, however, so you'll have to rely on the LCD even in harsh sunlight. There's a built-in flash if you need to add in some light – especially useful for illuminating backlit subjects such as portraits. However, there's no hotshoe or accessory port for add-ons such as flash guns.

Inside the body you'll find a 20.8MP CX-format one-inch sensor, which is smaller than the APS-C sensors you'll find in some competitor CSCs. However, image quality is still decent, with good colour saturation and dynamic range. There's no

optical low pass filter present either, which ensures images stay sharp and finer details are well resolved. The top ISO has also been improved from the J4's 6400, with a new range of ISO 160-12,800, meaning it's much more capable in low light.

A big thing that is quite impressive about this model is that the EXPEED 5A processing engine allows a continuous shooting rate of 60fps using a fixed focus, or 20fps using continuous autofocus. This is an impressive speed that will help you to capture even the fastest action. Its electronic shutter lets you shoot as fast as 1/16,000sec and it's near silent for discreet shooting for things like wildlife or street photography. Another tool for capturing action is the Hybrid AF system with 171 AF points, 105 of which are phase detection points, to help with more accurate focusing. Video enthusiasts will also benefit from options of 1080p at 60fps or 4K recording at 15fps, and you can share your shots quickly and easily using built-in Wi-Fi and NFC.

Summary

A great option for those upgrading from a compact and wanting more control, as well as interchangeable lenses, the Nikon 1 J5 is apt at shooting action, perfect for shots of the kids, wildlife, sports and more.

Nikon 1 V3

Get creative with photography in this small but versatile system

Technical data

Model	Nikon 1 V3
Price	£1,049/\$1,150 (with 10-30mm lens, viewfinder, grip)
Megapixels (effective)	18.4
Max resolution (pixels)	5,232 x 3,488
Sensor information	13.2 x 8.8mm CMOS CX
Lens data	Nikon 1 mount
Shutter speed	30.1/4000sec, bulb (mechanical)/30-1/16,000sec, bulb (electronic)
ISO sensitivity	A, 160-12800
Exposure modes	Scene Auto Select, P, A, S, M
Metering options	Matrix, Centre-weighted, spot
Flash modes	F-ON, F-ON+SS, RE, RE+SS, RCS, RC+SS
Connectivity	Hi-Speed USB, HDMI, 3.5mm jack, Wi-Fi
Weight	282g (body only)
Dimensions	110.9 x 65.0 x 33.2mm
Batteries	Rechargeable Li-ion
Storage	MicroSD, microSDHC, microSDXC
LCD	3-inch, 1037k-dot TFT
Viewfinder:	Optional 2359k-dot DF-N1000 electronic

The Nikon 1 V3 is another CSC in the line-up that features high-end functions in a small body. It's slightly bigger than the J5 but shares the same sized one-inch sensor, but at a slightly reduced 18.4MP. As with the J5, there's no optical low pass filter to get sharper results and it uses an Advanced Hybrid AF which has 171 AF points with 105 phase detection AF points for quick focusing.

Unlike the J5, however, it comes with a hotshoe so you can add on purchasable accessories such as an external flash or viewfinder. Of course there's still a built-in flash and you can opt to use the LCD display for framing, but it's nice to have the option. The screen can be tilted up or down and can be used to focus and take shots using its touch screen functionality.

Other highlights include an external mic jack, useful for getting a much clearer sound when shooting video, EXPEED 4A processing engine that has the ability to shoot full-res at 20fps using continuous autofocus, 160-12,800 ISO range and Wi-Fi. Also, videographers will love the ability to shoot full HD videos at 60fps. There are many creative modes that are also offered on other Nikon 1 models too, such as Fast Motion to add extra energy to your scenes, Jump Cut to create a fun stop motion look, or four second movie clips that you can even stitch together.



The Nikon 1 V3 pictured above is a high-quality option for enthusiastic photographers, that packs a lot of creative features into its compact frame

Summary

A solid option in a small camera that offers the ability to add on extras such as a viewfinder, the Nikon 1 V3 is a fast and fiercely capable CSC model packed with plenty of really useful and creative options.

Nikon 1 S2

An entry-level CSC that still boasts some stellar features

Technical data

Model	Nikon 1 S2
Price	£340/\$450 (with 11-27.5mm lens)
Web	www.nikon.com
Megapixels (effective)	14.2
Max resolution (pixels)	4592 x 3072
Sensor information	13.1mm x 8.8mm CMOS CX-format
Lens data	Nikon 1 mount
Zoom	Lens dependent
Focus/macro	Lens dependent
Shutter speed	30.1/16,000sec, bulb
ISO sensitivity	A, 200-12800
Exposure modes	Scene Auto Select, P, A, S, M
Metering options	Matrix, Center-weighted, Spot
Flash modes	Auto, Auto+RE, F-ON, F-ON+SS, RE, RE+SS, RCS, RC+SS, F-Off
Connectivity	Hi-Speed, HDMI
Weight	190g (body only)
Dimensions	101.0 x 60.8 x 29.4mm
Batteries	Rechargeable Li-ion
Storage	MicroSD, microSDHC, microSDXC
LCD	3" 460k-dot TFT, fixed
Viewfinder:	None



A sleek and simple body houses some solid technology, but it won't overwhelm those new to interchangeable lens cameras

The S2 is the entry-level option in the Nikon 1 series, offering a stripped back design aimed at those upgrading from a compact. The look is stylish and fun, coming in four colours: black, white, yellow, red. It is made from plastic with a smooth finish and it weighs a slight 190g with a slim 29.4mm profile. The controls are minimalist, as there's no mode dial; instead you use the F button to bring up controls on screen. The fairly low-res LCD screen

is fixed and doesn't have touch-screen controls and there's no viewfinder or optional add-on. While it also doesn't feature built-in Wi-Fi, there's an optional WU-1a Wireless mobile adaptor available, however.

The 14.2MP CMOS sensor has no optical low pass filter for sharper shots and the camera is capable of ISO 200-12,800 for use in low light, as well as being able to capture Full HD video. A nice feature is the Live Image Control that lets you make tweaks to things like lighting and background blur using control bars.

Just like other models in the Nikon 1 system, there are many creative modes available here, including Motion Snapshot, which takes a photo and a one second slo-mo video (which even starts before you fully press the shutter). You can also capture high-resolution stills while in movie mode by simply pressing the shutter release.

Summary

A budget yet still good-quality CSC option for those who are looking to experiment with the control that interchangeable lenses gives you, while still keeping the design fairly simple and easy to use.



The Coolpix A is very user friendly, and there's even two user modes on the mode dial for quick recall of settings

Nikon Coolpix A

Promising exceptional images in a really portable body, the Coolpix A is a high-quality compact

SRP: £500/\$600

Technical data

Model	Nikon Coolpix A
Price	£500/\$600
Web	www.nikon.com
Megapixels (effective)	16.2
Max resolution (pixels)	4928 x 3264
Sensor information	23.6 x 15.6 mm CMOS DX-format
Lens data	18.5mm f/2.8
Zoom	Fixed lens
Focus/macro	50mm-infinity (10cm-infinity in macro mode)
Shutter speed	30-1/2000sec (bulb available in M mode)
ISO sensitivity	100-6400 (extendable up to 25,600)
Exposure modes	Auto, 19 scene modes, P, A, S, M, User 1, User 2
Metering options	Matrix, Center-weighted, Spot
Flash modes	A, A-SS, F-0n, SS, RC+SS, F-0ff, RE, Manual
Connectivity	Hi-speed USB, Mini HDMI
Weight	299g with battery
Dimensions	111.0 x 64.3 x 40.3mm
Batteries	Rechargeable Li-ion
Storage	SD/SDHC/SDXC
LCD	3" 921k-dot TFT fixed
Viewfinder:	None

The Nikon Coolpix A sits among the manufacturer's top-of-the-range compacts, and it's perfect for those wanting to take control of their settings while still having a fixed lens.

It's ultra-portable at just 299g and its sleek exterior doesn't have a hand grip so it will happily fit into a jacket pocket. The camera is made of magnesium and aluminium alloy so it feels of a premium quality too. There's a mode dial on the top for easy control of your settings and the menu is laid out in a logical way for you to navigate around the options easily. There's also customisable function buttons on the front and back that can be set to control things such as ISO and file formats.

The three-inch 921k-dot LCD screen is not touch controlled, which is a shame, as this would have been a nice feature for controlling your focus point quickly. It is fixed, so it can't be flipped out to help you shoot at more awkward angles. It also has an 18.5mm fixed lens (which gives you an equivalent of 28mm focal length in 35mm terms) that has a fast aperture of f2.8 to help in low light situations. This is a high-quality lens that will give you great depth of field to create blurry backgrounds. If you're after a more versatile option that lets you zoom in, though, you are better off looking at Nikon's other compacts.

The 16.2MP, APS-C sized sensor is larger than you'd find in most compacts, delivering you a higher

level of detail; it's the same sized sensor found in its DX-format DSLRs. There's no optical low pass filter either, improving sharpness and details even more. You can also shoot in 14-bit compressed Raw files, which capture more information than JPEGs and enables you to take more control in the editing stage. Furthermore, you can take control using the manual focusing ring for fine tuning image sharpness, and the ISO range of 100-6400 (manually extendable up to 25600 using the Hi 2 setting) lets you shoot in lower light while keeping your shutter speed high. You can also capture action using the 4fps continuous shooting mode.

There may not be Wi-Fi built in but it's compatible with a WU-1a Wireless mobile adaptor for sharing your shots easily and there's a hotshoe for adding accessories such as an optical viewfinder. Video enthusiast will also enjoy that it features Full HD 1080p video at 30, 25 or 24fps with Stereo sound and a built-in mic.

Summary

This is a premium compact with high image quality and a sturdy build. Its price means it's not a throwaway purchase, however, and you may also want to look at the variety of features offered on CSCs at a similar cost.

Nikon Coolpix P900

This bridge camera with a massive 83x optical zoom range is a flexible option

Technical data

Model	Nikon Coolpix P900
Price	£500/\$600
Megapixels (effective)	16MP
Max resolution (pixels)	4608 x 3456
Sensor information	1/2.3-in CMOS
Lens data	4.3-357mm, f/2.8-6.5
Zoom	83x optical, 166x digital
Focus/macro	50cm-infinity
Shutter speed	1/4000sec (15-1/4000sec when ISO is 100 in M mode)
ISO sensitivity	100-1600
Exposure modes	Auto, Scene Auto Selector, Scene Modes, P, S, A, M
Metering options	Matrix, Center-weighted, Spot
Flash modes	A, A+RE, FOn, Manual, SS, RCS, FOff
Connectivity	Hi-speed USB, HDMI micro, Wi-Fi, NFC
Weight	899g (with battery)
Dimensions	139.5 x 103.2 x 137.4mm
Batteries	Rechargeable Li-ion
Storage	SD, SDHC, SDXC
LCD	3", 921K-dot TFT LCD
Viewfinder:	921K-dot electronic



This camera is only classed as a 'compact' due to its fixed lens, but it's still a reasonable size

The Nikon Coolpix P900 has a huge 83x optical zoom, which at the time of its release was a world first. That's a whopping 24-2000mm reach in 35mm terms, meaning that you can shoot sweeping wide landscapes or zoom in on intricate details. This can be digitally expanded to 166x using the Dynamic Fine Zoom, giving you a 4000mm reach in 35mm terms.

When using the longer focal lengths, naturally camera shake is going to be an issue. Nikon has tried

to combat this by featuring vibration reduction to help you when you're shooting handheld, which is said to give you a five-stop shutter speed advantage.

As well as a huge zoom, this camera offers a back-illuminated 16MP 1/2.3-inch CMOS sensor and manual controls. Weirdly for a camera of this price point you can't shoot in Raw, though. It does have built-in Wi-Fi and NFC, however, and a fully articulating LCD screen for shooting from unusual angles. It's not a touch screen so you can't use it to change focus point quickly. There is, however, a 921k-dot electronic viewfinder that comes with an eye sensor so it activates automatically.

The Full HD movie function (1080p/60p) comes with a dedicated movie record mode and shooting time lag is said to have been reduced to 0.12sec at a wide angle setting.

Summary

At 899g it's around the same weight as a DSLR, and it's not a small camera, so it's not one you'd buy for its portability. It's a versatile option though if you don't want the added bulk of multiple lenses.

Nikon Coolpix AW130

SRP: £280/\$350

A tough, waterproof option that will see you through your adventures safe and sound

Technical data

Model	Nikon Coolpix AW130
Price	£280/\$350
Megapixels (effective)	16
Max resolution (pixels)	4608 x 3456
Sensor information	1/2.3" CMOS
Lens data	4.3-21.5mm, f/2.8-4.9
Zoom	5x optical zoom, 4x digital zoom
Shutter speed	1/1500sec
ISO sensitivity	125-1600 (3200 and 6400 available in auto)
Exposure modes	Auto, Scene Auto Selector, 18 Scene modes, Short Movie Show, Smart Portrait, Special Effects
Metering options	Matrix, Centre-weighted (digital zoom <2x), Spot (digital zoom 2x+)
Flash modes	A, A+RE, FOff, FOn, SS
Connectivity	USB, HDMI micro, Wi-Fi
Weight	221g with battery
Dimensions	110.4 x 66.0 x 26.8mm
Batteries	Rechargeable Li-ion
Storage	SD, SDHC, SDXC
LCD	3" 921K-dot OLED fixed
Viewfinder:	None



The AW130 comes with a 3.0-in 921K-dot OLED screen for good visibility when framing your shots

The Nikon Coolpix AW130 is a tough camera that is built to last. It's waterproof up to 30m, shock proof to 2m, dustproof and cold resistant up to -10°C. So whether you want to take it with you when you're snorkelling, skiing or put it in the hands of your kids, this is a model built to withstand all of your action and adventure.

The body comes in black, yellow, orange, blue or camouflage and has a small rubberised grip on the front to help you keep a strong hold of it. The button layout is very simple, as is the menu system, and there's even

Action Control where you flick the camera up or down to scroll through the options before pressing the button to make your selection – it makes sure that settings changes are a breeze when you are wearing gloves or even underwater.

Inside its particularly tough exterior is a 16MP CMOS sensor and a 24mm f/2.8 lens with a 5x optical zoom and 10x Dynamic Finer Zoom to allow you to digitally get closer to your subject. To combat the camera shake that's inevitable when shooting high-octane activities, it comes with Lens Shift and Electronic vibration reduction. Another very useful tool in your action arsenal is 5fps continuous shooting and 1080p video.

You can easily share your shots while out and about on your adventures using the built-in Wi-Fi or NFC and GPS will even keep track of where shots were taken, so your photos can actively help you to build a map of your travels over time.

Summary

A waterproof model that's still capable of producing quality images, however if you aren't a dependent on the tough aspects you may be able to get more for your money with an alternative Nikon compact.



Ultimate Guide to... Nikon Lenses

Let us help you capture the full picture with our guide to lenses for your Nikon

Selecting the right lens for the correct subject matter is crucial. Your lens is the eye of your camera and records or captures what it sees. In terms of cost and performance, it usually comes down to the more you spend, the better your results; however, if you're just starting out there is no point in splashing out on lots of expensive equipment straight away as you first need to learn the basics of photography and find which genre you wish to pursue.

A good lens is pricey; there's no getting around that fact. The cheaper kit lenses will produce good enough results for beginners, but when you need to take your photography to the next step you will have to invest in a couple of decent lenses.

A lens's angle of view is measured in millimetres. An ultra-wide-angle lens will have a measurement

that is less than 24mm, a wide-angle lens ranges from 25-35mm, and a normal or standard lens is 36mm-60mm. Past this number the lens becomes a long focus lens or telephoto. Another thing to consider when looking for the right lens is the construction. There are prime lenses, which have fixed focal lengths (ie the lens does not zoom in or out), and there are zoom lenses, where the focal point can be adjusted.

The type of camera you have will also affect what lens you should shoot with. If you have a full-frame sensor then the angle of view is the equivalent to how it reads on the lens (a 35mm will be 35mm, for example). However, if you have a camera with a crop factor then the focal length will be different. If the camera has a crop factor of 1.6x then a 35mm will be equivalent to a 56mm angle.



“When you’re ready to take your photography to the next level, you will have to invest in lenses”





Lenses for landscapes

Most photographers will opt for a wide-angle lens when capturing a landscape image, as they want to include as much of the vista as possible.

For most, a wide-angle lens is anything that is lower than 35mm. But remember that if your Nikon camera has a crop factor of 1.6x then you need a lens measuring 22mm to have a 35mm equivalent.

When shooting a landscape scene there are some technical aspects to be aware of. If you want fine detail from the front to the back of the image then you will need to set a narrow aperture, ie anything higher than f16. This is when the lens is letting in the least amount of light, so to balance the exposure with the shutter speed you will most likely need to support the camera on a tripod to keep it steady. You should also compose your shot in thirds and look for leading lines in the landscape to pull the viewer's eye through the image.

On a landscape shoot it is best practice to use the focus on manual mode, as your eyesight is far more accurate than the camera lens and you should be aware of where you want the focal point. With landscape photography you have time to consider and control all these aspects, so you should use the camera and lens manually.

Some lenses are so wide that they take on a fisheye effect and the image becomes distorted in a spherical manner. For the 35mm format, a typical focal length of a fisheye lens is between 8-10mm for cameras with a crop factor, and 15-16mm for a full-frame sensor. Whether or not you should use a fisheye lens in your landscapes is down to individual taste – some embrace this effect whereas others aren't too keen on it. Experiment to see whether this creative effect is something that you wish to use more.



Take a look

They may not be the cheapest out there, but these are the best lenses for landscape photography on your Nikon

Nikon AF-S 14-24mm f2.8



Though quite expensive, but Nikon users won't be disappointed with the results of this 14-24mm lens. The zoom range is highly adaptable to any landscape scene, and the wide-angle 14mm will pack plenty of scenery into the frame. The fact that it's teamed with a wide f2.8 aperture makes this lens perfect in low light.

Price: £1,140
Contact: 01707 329999
Web: europe-nikon.com

Nikon 16mm f2.8D AF Fisheye NIKKOR



For those wanting to take on a slightly more experimental style of landscape photographs, shooting with a fisheye lens could be the perfect solution. The extreme wide angle distorts the corners of the image, creating a spherical effect that some will like but it's not to everyone's taste.

Price: £625
Contact: 01707 329999
Web: europe-nikon.com

AF-S NIKKOR 24-70mm f2.8



This 24-70mm is a standard zoom lens and gives the photographer a little added flexibility when composing a scene, enabling you to go ultra-wide or close-up. The dedicated flower-shaped lens hood effectively minimises stray light to improve your pictures and the focusing ring and Silent Wave Motor provide smooth operation.

Price: £1,235
Contact: 01707 329999
Web: europe-nikon.com

FOCAL POINT

A manual focus is always best when it comes to landscape photography as your eye is more reliable and there are many elements in a composition to consider as the main focal point

LEAD-IN LINES

Look for lead-in lines in the composition to produce superior results. Make sure you have a point of interest

“Some lenses are so wide that they take on a fisheye effect and the image becomes distorted”

“Zoom lenses aren’t as fast as primes, so you may need to up the ISO”

CHARACTER

Try to photograph people with lots of character. Old people and babies work particularly well for this type of photography



POSITION

Come in close to your subject and stand slightly above to produce more flattering results. If you position yourself underneath the subject the chin will look bigger

Lenses for portraits

For portrait photography you want to shoot the head and the shoulders. Prime lenses will produce perfect results, but some find these hard to use as they’re fixed in their focal range. However, the unique style this type of lens produces is highly popular with industry professionals and so is worth trying.

Many prime lenses are able to open to a wide aperture and this can create a dreamy effect where the subject is sharp and the background is blurred. On some lenses the aperture will go as wide as f1.4, meaning it’s effective to use in low light and for street/documentary photography. It’s also available at an extremely reasonable price from Nikon, but if you have a bigger budget to spend, there are beautiful prime lenses on offer such as the 60mm f2.8. Prime lenses are also generally

a lot lighter than zoom lenses, so if you’re out and about they can make a considerable difference to your comfort.

Again, your camera’s sensor will make a difference to which lens you should go for, and some people may prefer shooting portraits with a zoom lens. Something like a 15-85mm can be most useful, as the versatile focal range is perfect for close-up portraits or if you want to get a wider angle. But remember that zoom lenses are not as fast as prime lenses, so you may need to up the ISO to compensate for the lack of light. It’s best to set your camera to anything above 1/125sec if you want crisp results.

Zoom lenses will also struggle to create the unique effects that prime lenses are capable of; however, they make up for any shortcomings with their versatile focal lengths.

Take a look

These lenses will deliver great portraits every time

Nikon AF-S NIKKOR 50mm f1.8



The ultra-wide f1.8 aperture means this lens from Nikon will cope well in low light and with street photography. The 50mm angle will equate to something like an 80mm lens with a camera with a crop factor, which can be good if you want to get in close but need to keep some distance from your subject.

Price: £200

Contact: 01707 329999

Web: europe-nikon.com

Nikon 35mm f2D AF NIKKOR



For those wanting a wider angle, this 35mm prime lens from Nikon is popular with street and portrait photographers. Like the NIKKOR 50mm lens, the Nikon 35mm has a wide aperture, but this one goes as shallow as f2. Make sure you keep the eyes in focus to get the best results.

Price: £324

Contact: 01707 329999

Web: europe-nikon.com

AF-S NIKKOR 85mm f/1.4G



A professional medium telephoto lens with a speedy f/1.4 aperture, this lens works well with Nikon’s FX-format SLRs. A Nano Crystal coating on the lens itself reduces ghosting and flare, and the nine-blade rounded aperture gives you a soft and pleasing blur, great for a bokeh effect. This lens works well for both portrait and general studio use.

Price: £350

Contact: 01707 329999

Web: europe-nikon.com



VERSATILITY

A versatile focal range is important for travel, as you'll want to shoot a variety of subjects



GET CLOSE

Intimate portraits make for excellent images when travelling. Having a zoom lens allows you to get in close

Lenses for travel

If you're the adventurous type, then you may find yourself on many big trips to some remote places and you'll no doubt want to take your Nikon with you. If you're a travelling photographer then the biggest thing to consider in your kit bag is the weight of your photographic equipment. You may have to compromise on image quality due to practical reasons, as if you're travelling alone you will soon get annoyed with lugging around two or three heavy lenses. This weight issue will most likely affect photographers with heavy professional DSLR camera bodies such as the D4.

For travellers, having the lightest but most versatile lens possible is important, so a large focal range is essential. The best option to consider to take on a trip is just one zoom lens with a focal range from around 18-200mm – in 35mm terms this will equal 27-300mm. This means you have everything covered from landscapes to portraits. Nikon makes a range

of telephoto lenses, from the wide-reaching 80-400mm to the slightly more budget 70-300mm.

At the full zoom of a zoom lens you will need to consider technical issues such as lens shake; however, if you have a good camera model you can always up the ISO and shoot in RAW to try to correct as much as possible in the post-production process. This also means that you need to take plenty of memory cards and a portable external hard drive to back up your images whenever possible.

When you're travelling as a photographer you may find your expensive equipment could make you a key target for pickpockets, but don't let this put you off. Take out a fully comprehensive insurance policy and try not to show you have lots of flashy equipment. Some photographers deliberately make their gear look worn out by putting tape or plasters on their camera body and lenses.

“The biggest thing to consider is the weight of your photographic equipment”

INSURANCE

Make sure you protect your equipment by taking out a separate insurance policy on it

Take a look

Travel light with these three lenses

Nikon AF-S DX NIKKOR 18-200mm f3.5-5.6G ED VR II



Made for the Nikon DX models, this lens is essentially a 27-300mm. In terms of value for

money, Nikon users will be hard stretched to find something better. This is the second generation of its kind and includes a 'zoom creep' feature to prevent the lens from sliding forward.

Price: £762

Contact: 01707 329999

Web: www.nikon.co.uk

Nikon AF-S VR 70-300 f4.5-5.6



This is a great option for travelers on a budget as it can be picked up for around £300 online. It offers all the focal range

you'll need for a wide variety of genres, from distant wildlife to portraits, to street photography and architecture captures.

Price: £534

Contact: 01707 329999

Web: europe-nikon.com

AF-S NIKKOR 80-400mm f4.5-5.6 VR



This 5x high power zoom lens allows handheld super telephoto zoom shooting, even in

low-light scenarios that would normally call for a tripod. When luggage is an issue, this is a great solution for lightening the load. It does come at a price, however.

Price: £1,899

Contact: 01707 329999

Web: europe-nikon.com

Lenses for macro

In close-up photography, a macro lens produces consistently great results. There is of course a variety of matter that can be shot in macro form such as food, but macro lenses are most often used for product photography, while bright colours, flowers and insects generally make excellent subjects too.

A macro lens could measure any focal length, but a 30-60mm range is typically used for product photography and small objects. A 90-105mm range is the standard focal range used for flowers and small objects, and a 150-200mm range gives more working distance and is typically used for shooting insects and other small animals.

There are a few zoom lenses out there that provide a macro option, but they generally do not allow a one-to-one magnification.

In macro photography, if you want detailed results then it's best to use a narrow aperture, ie anything above f16. This ensures that the whole image remains sharp and in focus. But if you want to blur the background and have just one focal point in the image, then you'll need to use a shallow depth of field. Most macro lenses aren't as fast as primes, and usually only open as wide as f2.8, but this should be enough. If you want to use macro lenses with a shallow depth of field, it's unlikely you'll need anything much wider than f2.8.

For those who don't want to take the plunge on a macro lens just yet fear not, as extension tubes are available as a cheap and effective alternative to a new lens. Extension tubes are a fair bit cheaper than a macro lens and can be attached in between the camera and standard lens. Tubes vary in length and can be stacked, decreasing lens-to-subject distance and increasing magnification. Less light will reach the sensor with an extension tube attached, so a longer exposure time will be needed to compensate and a tripod will have to be used to reduce shake.

Take a look

Get up close and personal with some of our favourite moderately priced macro lenses

AF-S Micro NIKKOR 60mm f/2.8G ED



The 60mm lens comes with a fast f2.8G aperture with super-quiet focussing. This makes it perfect for getting up close to subjects. High-quality optics bring excellent results and the lens is suitable for general use.

Price: £380

Contact: 01707 329999

Web: europe-nikon.com

Nikon AF-S DX Micro NIKKOR 40mm f2.8G



This lens is light, compact and above all perfect for goals such as photographing flowers, insects and other small subjects. Its 1:1 magnification ratio allows for life-like close-ups. It's fast to focus and Nikon's Silent Wave Motor ensures you won't disturb your subject.

Price: £185

Contact: 01707 329999

Web: europe-nikon.com

SUBJECTS

Flowers and insects make excellent subject matter. Set your camera up next to a pollinating flower to let the insects come to you

MANUAL

A manual focus is always more reliable, and in macro photography you have time to control this



1:1 RATIO

A macro lens is anything that produces an image at a ratio of 1:1 or larger

COLOURS

Bright colours are good for macro photography and subject matter becomes more abstract the closer you get

“A macro lens could measure any focal length, but a 30-60mm range is typically used for product photography and small objects”



“Be aware that the more you zoom in, the more you will have to compensate with the shutter speed”

Lenses for sports, action and wildlife

For action and wildlife photography it is essential to be at the heart of the action. But this is not always physically possible, so a zoom or telephoto lens is the next best thing. Most photographers wanting to get up close will use a camera with a crop factor as it makes a difference to the length of the lens; for example, a 200mm lens on a 1.6x crop becomes 320mm.

There are other aspects to be aware of with a longer lens, as the more you zoom in the more you will have to compensate with the shutter speed. A monopod can be a good accessory to have to hand as it provides the user with flexibility, yet it still adds that extra bit of support. Most zoom lenses also come with some type of image stabilisation feature. We recommend

you keep it on, but it could affect the continuous burst mode, so check to see how your particular Nikon model handles this. You may also find that this feature uses up the battery life on your camera faster than normal.

There are many lenses on the market to choose from and with long lenses they do become pricier the longer they get. This is because they are complex in their design as there are many elements that make up the construction. You want to be careful not to bash the lens when out on location – if one of the elements gets knocked out of place, it can be expensive to fix. You may not notice that it's broken until you get back to upload your images onto your computer and realise that they're all out of focus.

ACTION
Don't miss any moment and get into the heart of the action with a zoom lens



EXPERIMENT
Creative angles can work well with sports and action photography, so try to experiment

COMPENSATE
Make sure your shutter speed is set to compensate for the length of the lens. You may need to up the ISO to make up for this

STABILITY
Many lenses have the option to turn on the image stabilisation setting. This is recommended for action photography

Take a look

Get in close to the action with a long zoom lens

Nikon AF-S VR NIKKOR 300mm f2.8



This telephoto zoom lens from Nikon has

a decent focal range and supports an nine-blade circular aperture, which creates a beautiful background blur and makes your subject stand out. It's an ideal lens for zooming in close to whatever action you're trying to capture.

Price: £3,999

Contact: 01707 329999

Web: europe-nikon.com

Nikon 55-300mm f4.5-5.6



This super-telephoto has a flexible range (35mm equivalent of 82.5mm to 450mm),

which is perfect for photographing wildlife from a distance. The Vibration Reduction II stabilisation system allows shutter speeds that are up to four stops slower and the Silent Wave Motor provides fast and quite autofocus to avoid scaring off any shy, unsuspecting subjects.

Price: £279

Contact: 01707 329999

Web: europe-nikon.com

Nikon 55-200mm f4-5.6



The Nikon 55-200mm f4-5.6 lens is compact as well as lightweight, which is great for travel shots. It comes with state-of-the-art optical technologies such as Vibration Reduction and Nikon ED glass element for a cheap and cheerful price.

Price: £128

Contact: 01707 329999

Web: europe-nikon.com

Lenses for creative photography

Creative photography has become increasingly popular as the digital medium has developed. Effects such as fisheye and lenses like tilt-and-shifts are at the forefront of this advancement. It's not only the high-street consumer that has become fascinated by the alternative effects, as industry professionals are using them for their advertising and editorial work to try to produce something unique and eye-catching for their clients.

Tilt-and-shift lenses work by adjusting the lens's optical axis and controlling the depth of field. They can be tricky to use, and even professionals have admitted they can have problems with them. Architecture and fine art photographers are the most likely to use this type of lens as it can help correct barrel distortion, which is a common problem with architectural images shot from the ground. It can also be useful in the

city where the distance between the photographer and building can be restricted and a wide enough angle cannot be composed. The tilt-and-shift lens can also make subject matter appear as if it's miniature by blurring the top and bottom of the image. This type of effect is appearing in most cameras as a creative filter, so anyone thinking of investing in one of these expensive specialist lenses should first consider how much use they will get out of it.

Fisheye lenses are not as tricky to operate as the tilt-and-shifts and can simply be used like a normal lens. Fisheye lenses can be good for interior photography or where the photographer needs to get an extreme wide-angle view. There are some fisheye lenses that are subtler and some that are more extreme; the one you should buy depends on the kind of impact that you're after.

“Professionals are using creative lenses for their advertising and editorial work”

FISHEYE

The fisheye effect can work well with landscape, sport/action or even people photography



WIDE ANGLES

As the angle of the lens becomes wider, the image begins to look more distorted and curves the edges of the image around

TIILT-AND-SHIFT

Another creative effect, the tilt-and-shift lens has become highly popular in recent times

Take a look

If you want to produce creative images then check out these lenses

Nikon Fisheye 16mm f2.8



Fish-eye lenses distort reality, bringing the subject closer, be and making your photos more dynamic. This is a full-frame, 180-degree fisheye with a bright f2.8 aperture for photographing in dim light or with fast shutter speeds.

Price: £625

Contact: 01707 329999

Web: europe-nikon.com

85mm f2.8 Tilt & Shift lens



The wide tilt and shift range enables hand-held tilt/shift photography and the nine-blade rounded diaphragm creates a beautiful rounded, natural blur. It provides high optical performance for general shooting too, with a dust and moisture resistant body to protect it from for harsh situations or conditions.

Price: £1,299

Contact: 01707 329999

Web: europe-nikon.com

Nikon PC-E 24mm f3.5 lens



For an ultra-wide tilt-shift effect, opt for the 24mm lens. This is perfect for architectural and nature photography, with a tilting range of plus or minus 8.5 degrees for exceptional control. Three Extra-low Dispersion glass elements offer superior sharpness and colour correction.

Price: £1,465

Contact: 01707 329999

Web: europe-nikon.com

POPULARITY

Industry professionals are using these creative lenses as they try to produce unique styles



Essential kit for Nikon



Essential kit for your Nikon

Build up your kit list with these must-have camera gadgets and practical add-ons to enhance your shots

Buying a Nikon camera is an investment, whether it's a small compact camera for snapping holidays and events or a bigger DSLR model for professional purposes. When it comes to adding accessories to your camera, the choices are so vast and stretch from gizmos and gadgets that are fun play with to more serious pieces of kit such as tripods and cleaning equipment. Chances are if you're passionate about photography your kit wish is never-ending. You'll aim to build

as many options as possible to help you shoot better images and use different techniques to create standout shots.

We've compiled a list of essential accessories that marry perfectly with your Nikon camera and explain a little about how they'll help you. We start by looking at bags and cases to keep your camera safe, as well as make them easy to carry from one adventure to the next. We then move onto tripods, often the most bulky piece of equipment after your

camera itself, but one that's worth getting into the habit of using to give your images a professional edge. We move onto a selection of heads to fit with tripod models from the very basic to the more professional, more expensive options. Next we delve into Flashes and Speedlights and explain what the two terms mean and which model will offer the best results for your camera. We take a quick glance at remotes as well as SD Cards and the cleaning products you need to keep your gear in pristine condition.

Essential kit for Nikon



Tripods

Tripods are an essential piece of equipment to keep your images straight and let you play around with creative effects. Even the steadiest of hands can't produce clear long exposures free from camera shake so if you want to add a professional edge to your work then get one.

Weight and stability are the two major concerns when buying a tripod. You'll probably have to carry your tripod a fair amount so you want it to be light, at the same time

you want to be able to take the weight of your camera and not tip over from a gust of wind. When selecting a model check whether it comes with the right attachment for your camera and if it comes with a head. Professional tripods are often sold as legs only assuming that photographers will prefer to pick a tripod head that suits them. If you're purchasing online, be sure to ask the seller first before handing over your money.

NIKON ALM22042 MINI TABLE-TOP TRIPOD (£22/\$34)

While anti-shake and stability software is becoming increasingly sophisticated in compact cameras you'll definitely find yourself in situations where a tripod makes the difference between a good shot and a great shot. Reaching a maximum height of 15cm this pint-sized product from Nikon is all you need to keep your camera stable when shooting close to the ground, which will be great for landscapes. If you want to shoot something higher, all you need to do is rest it on a tall surface like a wall and away you go. It's useful to keep with you and won't take up much space in your kit bag.

GRIPS

Rubber tips on the feet of the tripod prevent slipping when used on hard surfaces or tabletops

“Tripods are an essential piece of equipment to let you play around with creative effects”



PETITE

This small tripod is lightweight and easy to carry with you if you're out shooting on location or at an event

VERSATILE

While ideal for compact cameras the tripod thread will accommodate any other camera although it's best for lightweight models

Keep it stable

Top picks in tripods and collars

MANFROTTO 055 CARBON FIBRE 3 SECTION TRIPOD (£395/\$480)

Manfrotto has a reputation for producing tripods that any camera manufacturer would be happy to see their brand on, and,



any camera owner would be excited to own. The 055 carbon fibre model is lightweight but extremely durable. It can take a weight of up to 8kg making it ideal for professional photographers and amateurs that really appreciate having quality products at their disposal.

GIOTTOS MTL 9251B ALUMINUM TRIPOD (£95/\$150)

Aluminium tripods are heavier than their carbon fibre cousins but the price difference is considerable. This entry level tripod is



compatible with most SLR cameras and can be bought with or without the standard adjustable head. Foam padding under the leg segments make the tripod easier to carry and better to handle in the cold. The bubble level at the neck of the unit makes straightening up your shot simple.

GORILLAPOD HYBRID (£38/\$51)

Gorillapod is a range of super flexible tripods that challenge you to shoot from new and extreme angles. The wrap-around legs let you position your camera almost anywhere



you can think of, as you simply shape the legs around a structure like a fence to secure it. The tilt knob lets you switch between portrait and landscape, while the release clip on the hybrid model makes for easy setup. The small GorillaPod unit is great for slipping into your camera bag.

NIKON COLLAR RING RT-1 (£150/\$224)

For serious photographers shooting with very big lenses such as the NIKKOR 70-200mm it's important to keep the weight of the lens stabilized while shooting. A collar ring is a useful accessory to keep the tripod balanced while



making sure the lens is able to move freely. Nikon's RT-1 tripod collar ring lets you switch quickly between vertical and horizontal so you can shoot portrait and landscape without too much adjusting of your heavy gear.

Tripod heads

A tripod's legs are there to carry the weight of your gear, while the head is there to give you flexibility and movement while you shoot. Essentially, the head does all the work, as you twist and turn it into the right position to line your camera up with the shot. The price range of heads can range from the value-for-money midrange offers to purpose built but astronomically priced units. Heads will often match or even outprice tripod legs and that's because they're just as important in your gear list.

When choosing a head take note of the panoramic rotation and lateral tilt. This is how far you can turn your camera while it is mounted and how far you can angle

your lens up or down. Your choice of head will depend on your shooting style and whether you shoot photo or video. If you're starting out then a three-way head is a good option as it gives you flexibility and precision in a range of situations. A ball head, however, is a lot quicker to operate but can be a bit less precise – it's a good option for fast shooting though. If you like to switch between shooting on a tripod and handheld then be sure that the head you choose offers a quick release function.



MANFROTTO PHOTO-MOVIE HEAD WITH Q5 QUICK RELEASE (£301/\$370)

To keep up with the trend of DSLRs built for photography and video purposes, Manfrotto has designed a head that caters to both shooting modes. With this head you can easily switch between the two without adjusting your setup. Photo mode gives you precise control while movie-mode gives you the fluid movements needed to create seamless pans. The setting includes friction control for even smoother results too.

“The tripod legs are there to carry the weight of your gear, the head is there to give you flexibility and movement while you shoot”



Watch your baseplate

To setup your camera you will usually first screw the baseplate into the thread at the bottom of the unit and then clip it onto the tripod head. If you only use one tripod it's a good idea to keep your baseplate screwed into your camera. If you switch between models keep your baseplate clipped into the head of the tripod to avoid losing it. Lost baseplates can usually be replaced through the manufacturer.

WEIGHT BEARING

The head is built to take up to 7kg, which is plenty for a DSLR with a kit lens

RANGE

With a panoramic rotation of 360 degrees and +90/-20 tilt range the head gives maximum flexibility

ROBUST MATERIAL

The unit is constructed from magnesium to keep it strong and make it long lasting

Change the angle

Tripod heads to reposition shots



GIOTTOS MH5011 3-WAY HEAD (£45/\$85)

Giotto's entry level heads are great value and come with features that will really enhance your shooting setup. This Lightweight three-way head lets you adjust your camera in three directions independently of each other. The quick release includes a safety catch to prevent accidental release and the special fluid pan movement allows 360-degree rotation giving you good range without having to move your tripod.



MANFROTTO BASIC TILT HEAD WITH QUICK LOCK (£78/\$80)

Constructed from lightweight technical polymer this basic tilt head is built for daily use – for amateur photographers it's a long-term, enduring investment. The quick release plate fits comfortably in your hands if you're shooting handheld and slips quickly and snuggly into the low-profile receiver. A spring feature assists in tilt motion making it ideal to carry heavier, off-centre loads.



GITZO SERIES 2 MAG OFF CENTRE HEAD GH2750 (£209/\$240)

Introduce a unique perspective to your work with this off-centre ball head. The unconventional design gives you a wide range of movement and it's especially good for shooting macro and other ground level shots when set up with the reversed column configuration. The unit doesn't feature quick release, so it performs best on slower paced shoots where you won't need to quickly switch to shooting handheld.



Protect your kit

Robust but stylish camera bags



NIKON GOLLA BAG £41/\$63

If you only intend to take out your SLR and one or two lenses, a shoulder bag is a sensible choice. This bag shuts with a front magnetic closing to stop you spilling its contents if you forget to close it. It has a velcro fastener too for extra security. You'll be able fit in your camera with a lens attached and still have space for an additional lens and a range of smaller accessories. Its inner padding will keep your kit protected, while the pockets are ideal for smaller items like memory cards.



NIKON COOLPIX CS-PO8 £45/\$69

A compact camera holder with a bit of bang, this bag has space for your Nikon COOLPIX P- or L-series compact camera and a strap to make it easy to carry. Inside the case you'll find plenty of space for accessories such as memory cards and batteries while the padded lining makes sure the whole lot is well protected. A practical and stylish choice for the compact camera user wanting a simple, streamlined bag.



NIKON COOLPIX L-SERIES CS-LO2 CASE £13/\$20

This semi-rigid case offers more protection than a soft drawstring pouch and snugly fits in your L-series camera. The internal pocket has space to slip in an extra memory card and the back is of the case is designed to double as a belt loop if you want to make sure your camera is safe and always ready to go. It's also available in a range of eye-catching colours for the more style conscious shooter!



Camera bags

Keep your kit safe by investing in a suitable bag or case – a dedicated camera bag with protective padding really is a must if you're spending a lot of money on kit. The range of bags on the market is astounding and you'll find one to fit your needs whether it's for adventuring with your camera or making a fashion statement.

Quality is the most important factor when choosing a bag; this will be what protects your camera so you should be sure that the materials used are up to standard. Also keep in mind the other gear and accessories you have to carry along with you. If you're

a Nikon DSLR user and you have plenty of lenses and flash accessories then choose a bag that accommodates all your gear. If you use a compact, something small and streamlined will do.

Nikon produces its own range of bags designed specially for the cameras it manufactures such as the range for COOLPIX compacts. The company's bag range extends into backpacks and shoulder bags which are great to carry your larger Nikon camera as well as necessary gear such as laptops.

Lens Pouch £20/\$25

To give your lenses additional protection invest in a lens pouch or case. The type of cover you buy will be determined by the lens you have. If you have multiple lenses a hard case with cutout foam to hold them tight is a good idea. For single soft pouch will keep your lens safe from dust and moisture, but isn't protective from any bumps.

NIKON CRUMPLER SLR LAPTOP BACKPACK £100/\$153

Made from Chicken Tex Supreme nylon, this offering from Nikon is for photographers that need a little more from their bags. The backpack fits in your SLR, lenses and a laptop to backup or view images while on location. It comes with padding to protect your kit and it's available in Nikon's signature black and yellow. It's stylish as well as practical, as you can open up the bottom for quick access. However, it is fairly weighty, coming in at 1220g, which may be a problem for landscape photographers on long walks.

CARRY THE WEIGHT

The bags padding keeps you comfortable while carrying your equipment to and from shoots

PROTECTION

The waterproof lining and padding keeps your gear protected even if shooting conditions are miserable

SPACE

With separate compartments for a laptop, your camera and accessories, this bag is all about space





**NIKON SB-500
SPEEDLIGHT FLASH UNIT**
 (£200/\$250)

As an entry-level choice, Nikon's SB-500 Speedlight is the way to go. The lightweight unit is small enough to fit in most camera bags and easy to slot onto the horseshoe of your DSLR. With a guide number of 24 metres, using this over your built-in flash will give an extra bump to your daylight images and help you out when shooting at dusk.

COMPACT

With a height of 67mm and a weight of 226g (without batteries) the unit is reasonably small and easy to carry around in your bag

POWER SOURCE

The unit is powered by two AA-batteries and can take rechargeable cells. You can carry spares in your kit bag in case you need them

TILT RANGE

The head has four tilt positions: horizontal, 60, 75 and 90 degrees. This is more limiting than some flashguns but still allows you some flexibility

Flexible lighting
Our picks to illuminate images



SPEEDLIGHT SB-N7
 (£129/\$160)

Designed to perfectly fit the Nikon 1 range of compact, mirrorless cameras this flash unit has a tilt capacity of up to 120 degrees giving you a wide range of creative options for bouncing light, it also boasts a range of flash modes such as fill-flash and flash compensation. It's available in black and white to match the body of your camera. Having a flexible flash like this on as small a camera as the Nikon 1 is a real bonus.



SUNPAK PF30X FLASHGUN
 (£70/\$110)

Sunpak offers a flashgun that will suit any budget while still giving good results. While it's missing the tilt capability of its pricier alternatives, its simple options make it easy to use and reliable in any situation, leaving you with little to think about except getting the perfect shot. The auto focus assist light also helps you camera focus when shooting in low-light conditions. Check compatibility with your individual camera before buying though.



SIGMA EF-610 DG ST
 (£170/\$135)

The Sigma EF-610 includes an autozoom function which automatically sets the illumination angle by reading the focal length of the lens. It also includes exposure control to regulate the type of bounce and illumination coming from the unit. Though pricier than an entry-level model the Sigma unit is well built, practical and useful in a variety of shooting situations from studio to close-up. It has a guide number of 61 making it a powerful option for more serious low-light shooters.

Flashes and Speedlights

Using flash is about more than just shooting in low light and brightening up your image. It is an integral part of photography and learning how to use one effectively will increase your understanding of the photographic process and how light works. Most cameras – compacts and DSLRs – have built-in flash that can be set to auto to fire when your camera thinks you need it or to use manually. Buying an additional flashgun, however, gives you greater flexibility in the way you use flash (for instance by tilting the head up to bounce it off a surface) and gives you extra power too, letting you hone the result you want.

Most compacts don't have an option to add an additional flash but Nikon's 1 series cameras do. When it comes to DSLRs the range of flashguns available are enormous and can fit any budget from an entry-level unit to a professional model. When it comes to buying a flashgun you'll come across the terms flash and Speedlight. These are essentially the same thing. Speedlight is the trade name for Nikon's flash option and each product in their flash line carries the label.

Wireless speedlight

If you use a big lighting setup then a Nikon's Wireless Speedlight Commander 800 (£275/approx \$337) does just that. The SU-Creative Lighting system and with it you can set off numerous flashes. The LCD can tell you what's connected and you can program it as you go.

“The adjustable tilt head lets you correctly bounce light and avoid the harsh result of direct flash”

Essential kit for Nikon



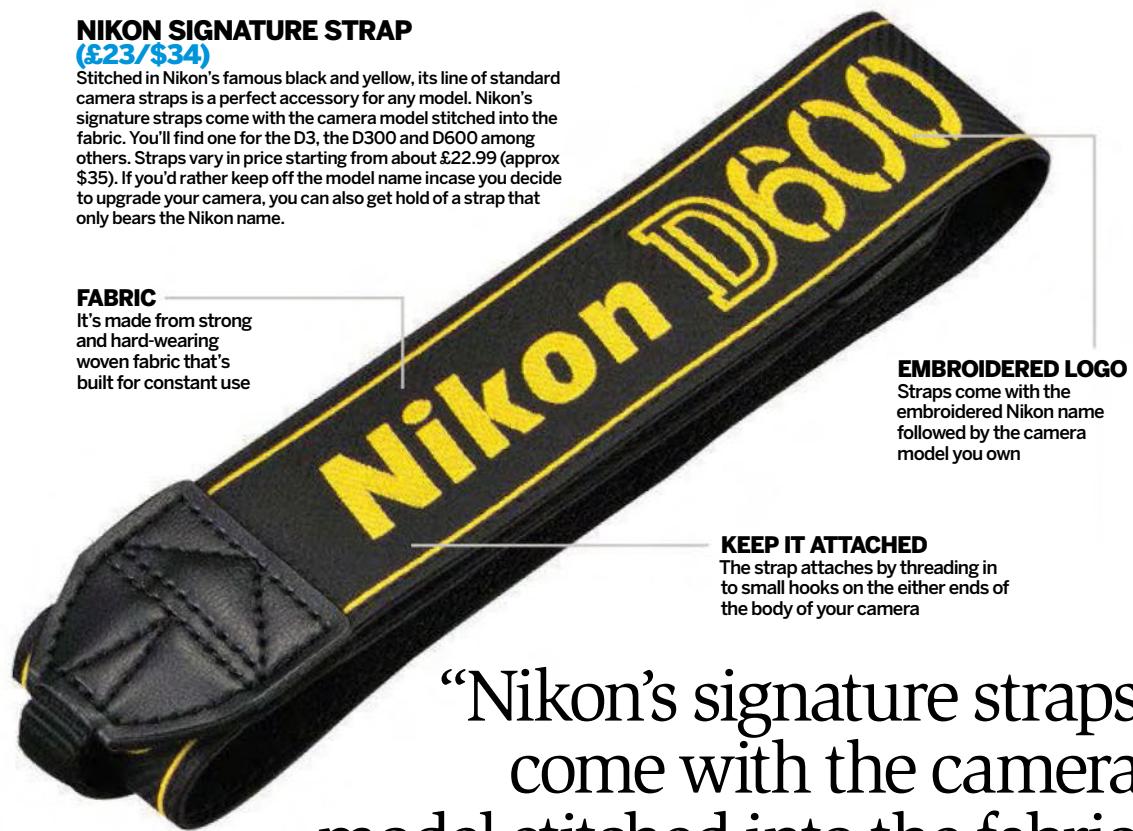
Straps

Getting a strap for your camera is just as essential to protecting it as the correct bag. Besides protection they are also vital to allowing you to shoot comfortably and take your camera around with you while having your hands free to perform other tasks such as changing lenses. There are hundreds of straps on the market that you can choose from, some built to be practical and others to make a statement.

NIKON SIGNATURE STRAP (£23/\$34)

Stitched in Nikon's famous black and yellow, its line of standard camera straps is a perfect accessory for any model. Nikon's signature straps come with the camera model stitched into the fabric. You'll find one for the D3, the D300 and D600 among others. Straps vary in price starting from about £22.99 (approx \$35). If you'd rather keep off the model name in case you decide to upgrade your camera, you can also get hold of a strap that only bears the Nikon name.

FABRIC
It's made from strong and hard-wearing woven fabric that's built for constant use



KEEP IT ATTACHED
The strap attaches by threading in to small hooks on the either ends of the body of your camera

“Nikon's signature straps come with the camera model stitched into the fabric”

One or two cameras?

When shooting in fast-paced situations such as weddings, one camera might not be enough. To stop getting tangled between two straps, choose a solution that holds two. While it is more conspicuous than a simple strap, a product like BlackRapid's Double (DR1) (£99.95) can hold two cameras securely, keeping your hands free to change lenses if you need to.

Before choosing a strap, decide what the most important factors are for you. If you own a compact, a small hand strap or neck strap will do the trick for keeping your camera handy and safe. For DSLR users there may be more to consider. Those operating a heavy camera may want extra padding to stay comfortable and hold the weight. Additionally you'll find options with extra features such as zip pouches to hold SD cards.

Make it secure
Keep your camera by your side



JJC QUICK RELEASE NECK STRAP NS-J1 (£11/\$13)

This padded strap gives you more functionality by including a zipped pouch to hold your SD cards or other small items. It also comes with a tripod socket that lets you connect your camera to the tripod without removing the plate, meaning quick transition time between shooting setups. The strap is built to be worn diagonally across your body and the extra material makes it a comfortable wear. You can adjust it to fit properly too.



NIKON WRIST STRAP AN-CP19 (£6/\$6)

This simple and very affordable product is essential to keep your Nikon compact camera safe while shooting. The small loop threads through the small hole on the body of your camera while the bigger loop should always be firmly wrapped around your hand while snapping pictures to prevent dropping it. The strap also provides a comfortable way of carrying the camera around securely if you're shooting throughout an event.



NIKON LEATHER NECK STRAP AN-N2000 (£20/\$30)

Built for the Nikon 1 series of compact system cameras, this slim and stylish leather strap is built to hold the weight of small compact camera and still be comfortable to wear. The strap is available in a range of colours including black and white to match your camera, so it's a great option for the fashion conscious. The functionality is simple, and there are no frills to be had here, but they look stylish and can really help free up your hands.

Remotes

A remote is an extension of your camera that gives you added functionality by allowing you to control it without physically touching the unit. Remotes are available in two basic options: wired and wireless. Wireless remotes give you more flexibility for being further away from your camera even if there are objects between you and it. The wired options can limit you more but if you plan to use your remote primarily in a studio setup or for landscape photography then this option may suit you perfectly, and they tend to be cheaper too.

“Wireless remotes give you much more flexibility for being further away from your camera”

COMPATIBILITY
This remote set works with specific Nikon DSLR cameras. Check your model before you purchase



NIKON WIRELESS REMOTE CONTROLLER SET
£220/\$278

This wireless remote lets you control more than just the shutter and you can use it to set up shots and change settings without having to go near the body of your camera. The set comes in three pieces with two controllers and one receiver. You can use both remotes on one camera or on two separate cameras to capture the exact same moment from different angles. A truly flexible shooting option that can really help you out.

In its simplest form a remote will release the shutter of your camera when you press the release button. While this is useful when you need to make yourself scarce like when you're photographing wildlife, it's also practical for long exposures and landscape photography, as you don't need to touch the camera and risk movement in your shot. They can also be useful for self-portraits. Moving up from the basic models you'll find many remotes are built to control a wider range of functions such as shooting mode and focus too.



Camera control
Fire the shutter off-camera



HAHNEL COMBI TF
£63/\$90

This compact device puts you in control of shutter release, auto focus, continuous shooting, bulb mode and 4-second timer delay. It's available with different connections so be sure to buy the Nikon-compatible model. If you've after something simple that gets the job done then this is the product to add to your kitbag. The unit also attaches to the horseshoe of your camera for added functionality.



PHOTTIX TR-90
£55/\$53

This timer remote connects to your camera with an 80cm cable. It's available for different makes so specify you want a Nikon connection when buying it. The remote offers functions such as a self-timer, interval timer, long exposure timer and exposure count setting feature. It can perform up to 399 shots before being reset and perform time lapses up to 99 hours, so it's a useful product to use for creative projects.



NIKON INFRARED REMOTE CONTROL ML-L3
£20/\$20

This product is ideal for Nikon COOLPIX and Nikon 1 owners, as it's a simple remote that does the job without any fuss. The one button remote controls the shutter from a distance which makes it ideal to shoot group shots, self portraits or eliminate camera shake. It's also compatible with certain DSLR models. It's powered by infrared, so you'll need a clear line of sight to your camera in order for it to work. If this isn't suitable for your shoot you'll need a radio trigger instead.



Essential kit for Nikon

Store the memory The place to record your shots



TOSHIBA SDHC 4GB MEMORY CARD (£6/\$9)

Approved by Nikon as compatible with the COOLPIX S30 camera, this memory card may be smaller in space than the rest, but when used with small JPEGs it offers more than enough memory and speed to keep snapping as much as you like. The card is available in sizes up to 32GB if you plan to shoot a lot at once and its reasonable price means you can invest in a few and swap out on shoots.



NIKON 8GB SDHC CARD (£5/\$8)

This standard SD card will work in a range of cameras and devices. While the 8GB offers plenty of space for casual snaps, bigger sizes such as the 16GB will suit those who plan to shoot more in one go or wish to shoot videos. RAW users may also find they need more storage space. The card offers high speed file writing and reading, and like with any other card a reader may be necessary to transfer images to your computer.



SANDISK EXTREME PRO COMPACT FLASH (£110/\$100)

Compact Flash cards are faster and offer more storage space than their SD cousins but they are pricier and they don't fit into all DSLR cameras. This high speed SanDisk card is available from 16GB to 128GB and offers write speeds up to 90MB for the smaller cards and up to 100MB for the 128GB card. The price of these make them an invest in themselves but one that's well worth it if speed matters to your photography.



Memory cards

Most cameras work by saving images and video files to a storage device such as an SD or MicroSD card which slot into the camera. These memory cards come in different sizes – the bigger the card the more images you can shoot before you run out of space. It's not always a great idea to use a huge memory card to store all of your images on, though, as if it corrupts you will have lost the entire shoot. Sometimes it's better to split a shoot over a series of smaller cards.

When you buy your camera the accompanying manual will tell you what type of card fits into the unit.

SANDISK EXTREME PRO 64GB (£76/\$95)

Built to keep up with professional photographers, the SanDisk Pro SD card offers a super fast 90MB/s write and 95MB/s read rate to keep up with fast shooting so you don't miss the action. The card is available from 8GB all the way up to 64GB, with the bigger cards being ideal for shooting video. They come with their own built-in protection which offers some peace of mind if you drop your card or accidentally get it wet. It's also resistant to extreme temperatures and is x-ray and magnet proof too.

PLENTY OF SPACE

Bigger cards are a good choice if you shoot video or capture images in RAW+JPEG

BUILT IN PROTECTION

Cards are designed to be shockproof, x-ray proof and waterproof and come with a lifetime limited warranty too

QUICK TRANSFER

With high speed transfer it's easier and quicker to backup your images and empty cards for their next use

Nikon releases a list of SD cards compatible with various makes of camera too. Check their website to make sure that if you're buying another name brand it will work in your camera and that you'll be able to make full use of its speed and features. You'll need to format your cards regularly to make sure they are operating at their best with your camera, and make sure you back up your shots as often as you can to make sure you don't lose them.

Keep your cards safe

SD cards may be small but damage to them equates to damaged images so keeping them safe and protected is extremely important. Make sure you always have a case handy to store them in, whether it's a plastic clip case that stores one card or a bigger case that can take many such as the Pelican 0915 Memory Card Case (£20.22).



PROTECTIVE MATERIAL

The soft fibers on the lens pens won't scratch or damage lens or filter surfaces, unlike some fabrics. You can use them as many times as you like without having to be cautious about the marks they might leave behind to expensive kit

**NIKON LENS PEN CLEANING KIT
 (£39.99/\$50)**

Dirt on your lens is the surest way to ruin a perfectly good image so making sure it's always dirt and dust free is very important. This kit contains three cleaning pens to brush away marks and smudges from the surface of lenses, filters and camera viewfinders. A regular dusting will save you a lot of time having to edit out dust on your images, which can be particularly fiddly if it falls over complex areas of the shot.

EASY TO CARRY

The case is made from 100% nylon and is small enough to carry in your camera bag or backpack with ease

ATTACK FINGER PRINTS

The pens are ideal to remove finger prints and smudges from your lenses, leaving your shots free from annoying marks

**Protect your viewfinder**

Your viewfinder is as precious as your lenses, so add a protective covering to prevent scratches. You could pick a touch glass viewfinder or plastic sticky covering. If you would prefer something more elaborate the Flipbac Angle Viewfinder (£33.55/\$20) might do. With the covering on you can simply wipe to keep it clean as many times as you need to.

Cleaning products

The more you clean and maintain your gear the longer it lasts and the better it performs. Cleaning products need not be complicated and if you do it regularly you'll avoid having to do any heavy-duty maintenance. Keeping your lenses, viewfinder and sensor clean is vital to keeping your camera working well and producing good images. But making sure there's no dirt on the body of the camera that can slip into the SD card slot or battery chamber is just as important. If you take due care that your camera doesn't get dirty then cleaning becomes easier too.

Always replace lens caps as soon as you can and never leave your camera body exposed without a lens on or a cap to protect it. If you've been on a shoot outdoors, especially on a beach or dusty area, then take the time to clean your kit and remove any sand particles before packing it away. For compact camera users a soft cloth and a gentle wipe is sufficient. If you've used a tripod in the sea, it's also important to wash it off with clean water when you get home to avoid rusting. Regular maintenance is so important to keep your kit healthy.

“The more you maintain your gear the longer it lasts. If you take due care that your camera doesn't get dirty then cleaning becomes easier too”

Keep it clean

Ways to remove the dirt

**KINETRONICS SPECKGRABBER
 (£7/\$8)**

Get rid of a pesky bit of dust on your lens with a SpeckGrabber pen that has an adhesive surface to simply pick up the dirt and remove it. The pen works best with spots, hairs or dust you've identified as being a problem, and all you have to do is simple dab up and down until the problem piece of material has been removed. You can get replacement tips to use when the old one has become less sticky.

**NIKON CLEANING CLOTH
 (£10/\$6)**

An all purpose cleaning cloth is a great addition to your kitbag to keep your camera body, lenses and other accessories dust free and in pristine condition. This cloth from Nikon folds up into a tiny pouch that can clip onto anywhere in your kitbag, making it easily accessible for a quick wipe before you start shooting. The soft fabric won't scratch or damage your kit, and acts as a compact way to remove dust particles when out on a shoot.

**NIKON CLEANING BRUSH
 BU-1 (£15/\$8)**

This simple brush can slip into any camera bag and is built to clean out the battery chamber of specific COOLPIX cameras. Keeping the chamber clean and free from unwanted debris helps to maintain the performance of your camera and should become part of your cleaning process. Simply slip the battery out, give the chamber a brush and reinsert when you're done. If you were to use an ordinary brush you may find the bristles remain behind, causing even more problems.



Guide to Nikon modes



Get to know Nikon modes

Explore your Nikon camera's mode dial with us and discover how it can help you to develop your skills

Your Nikon's mode dial has something for every photographer. There's a plethora of modes available, which range from basic auto to full-blown manual control over exposure settings. Whether you're working with a high-end Nikon compact, CSC or DSLR, most mode dials feature the same selection of options, which means you can follow along with us as we explore what's on offer.

Most mode dials are positioned on top of the camera, although some may be found in the camera's menu. Your mode dial has an important role to play in the photo-taking process, and can essentially determine how well your shot turns out. To use your mode dial, simply rotate it around to a mode that you're comfortable shooting in. If you are just starting out, you should select auto, while step-up shooters should move into a scene mode by selecting an icon that reflects the subject they're shooting. More experienced photographers, on the other hand, are likely to explore the more advanced P, A, S, M modes, which offer you more control over your exposure settings and ultimately, the creative outcome of your captures.

You'll find there is a fantastic selection of modes to choose from, but understanding what each one does is essential to ensuring you get the results you're after in camera. To help you get to grips with your mode dial and discover the secrets behind each setting, join us over the following pages. We'll start by taking you through the advantages of auto before exploring some of the most popular scene modes that are available. You'll not only learn what each one does but we'll also share some practical advice and tips on how best to use them.

Enthusiast-level photographers will also learn more about the semi-manual and manual modes, as we cover how to control exposure using P, A, S or M. Join us through Programmed Auto setting first, before exploring creative effects in Aperture Priority and Shutter Priority. Once you're confident with adjusting exposure settings, you can join us in Manual and discover shutter speed and aperture settings for a well-balanced exposure. So grab your camera and follow along as we give you the knowledge to help take you from a beginner-level shooter to confident photographer.



Using Auto mode, you don't have to worry about understanding exposure



Auto mode

Discover the benefits of shooting in Auto mode and get inspired to step up to scene modes or manual settings as you gain some confidence

The Auto mode is the most noticeable icon on the mode dial and it's also the most basic option. Designed for complete beginners, the Auto mode doesn't require any input from the photographer when it comes to selecting your exposure settings, meaning your only role in the process of producing a picture is to point your Nikon at the scene and press the shutter.

Many mistake the Auto mode for being the best option when it comes to taking a quick capture. Although it's probably the most familiar, there are much better modes to select, including specific scene mode options and the Programmed Auto mode, which we'll cover a little later on. If you're working with a relatively new Nikon camera, you can discover more about them using the Guide mode setting too.

Using Auto mode, however, means you don't have to worry about understanding exposure. The Auto mode works by evaluating the lighting in a scene and determining what shutter speed, aperture setting and ISO you will need to shoot at. The camera will even consider the automatic use of

flash. Auto cannot recognise what subject you are shooting, however, so although you'll often get a good, even exposure, the settings may not offer the most professional results. Portraits for example are unlikely to include an artistic shallow depth of field effect (blurred background), as the camera has used larger f-numbers for the best even exposure.

As you're without control over the exposure, use your Auto mode in other ways. Use it to concentrate on developing your eye for composition, for example, as you don't have to worry about settings. Focus on framing well-balanced landscape scenes and positioning models effectively in portraits. Advancing your skills in this area as a beginner will be useful when you begin to explore more advanced modes. Knowing what makes a good

image is essential; the right exposure settings comes next.

Alongside the Auto mode, your mode dial may feature a 'Flash off' mode. This is essentially the same as the full Auto mode but it instead prevents the camera from selecting the flash automatically during an exposure when you may not want it. Use this mode when you want automatic results but want to avoid flash illumination on your subjects.

Although it's the least creative mode on your camera, you'll find the Auto mode useful for improving your framing skills. Once you're ready, explore the fantastic array of scene modes on offer before advancing to the step-up Programmed Auto mode and then further to Aperture Priority, Shutter Priority and full Manual control.

“Using Auto mode, you don't have to worry about understanding exposure. Use it to concentrate on developing your eye for angles and framing”



The Auto mode usually does a pretty good job at getting the right settings for you, especially on scenes with simple lighting



Scene modes

Discover the potential in your scene mode settings to take a little bit more control and start getting great shots straight out of the camera

Scene modes are a lot more advanced than your standard Auto mode setting. They are programmed to automatically capture your subject using the best settings for the scene. The selected exposure settings are based on those that are traditionally used, in order to get creative results when shooting the likes of portraits, landscapes, sports and still life.

The Landscape scene mode ensures more of the picture is in focus by selecting smaller aperture settings to increase depth of field. Other modes make similar adjustments to optimise images, including blurring the background in portraits.

To select a scene mode, simply rotate the mode dial to one of the icons, depending on what you're planning to shoot. In some Nikon cameras, you

may need to select the scene symbol and choose a specific mode from the menu options on the screen.

Scene modes are a great starting point for those who want to step out of Auto mode and begin getting creative results. Using scene modes, you'll be able to take more control over your images, which should build your confidence towards exploring the more advanced modes available to you.

Portrait mode

■ Select the Portrait scene mode to shoot flattering photos of your family and friends. You can use it to frame one or more people in the photograph too, provided they are stationary – you'll need to switch to the Sport or Child scene mode if you're photographing fast-moving people to avoid blurred results.

Using the Portrait scene mode, your camera will determine the correct exposure settings for the shot. The Portrait scene mode is designed to softly blur out the background of your image by using wider aperture settings, which creates an artistic shallow depth of field effect. This is a great way to isolate the person in the photograph, making them the main

focus in the frame. The Portrait scene mode also takes care of skin tones, as the camera automatically adjusts how colours are recorded, resulting in a smooth and natural finish.

Although the Portrait scene mode takes control over your exposure, you can adjust your in-built flash settings. Opt to turn the flash on, off or select a red-eye reduction mode, depending on the conditions. Your camera will then take the flash into account with the exposure before you take the shot.

You can use the Portrait scene mode to photograph people on location or inside. If it is possible, select the face-detection focusing mode to ensure sharp and professional shots.

Capture professional-looking portraits without having to adjust your exposure settings using the Portrait scene mode



Use your Night scene mode to capture impressive low-light shots using wider apertures and your on-camera flash

Night mode

■ You don't have to put your camera away after the sun has gone down; using your Night scene mode, it's still possible to capture some great low-light images. Some Nikon camera models will feature a standard Night scene mode on the dial; however, others can offer much more specific night modes, including Night Portrait and Night Landscape.

You can use the Night Portrait mode to photograph your subject in low light using the built-in flash. The Night Portrait mode will slow down your shutter speed so that once the flash has illuminated the model's face, the camera can still record ambient light in the background. You need to make sure your model is stationary

throughout the duration of the exposure to get blur-free shots.

The Night Landscape mode, on the other hand, is ideal for capturing nighttime city scenes. It works by making the camera let in more light, which involves using slower shutter speeds. For the best results, use a tripod to avoid capturing camera shake which could ruin the result.

A general Night scene mode works in a similar way to the more specific Night Landscape mode in that it makes the most of limited light by using the best possible settings. You can use it not only when you're shooting in a low-light location, but also when you're shooting indoors under dimly lit conditions.



Shoot with your Landscape scene mode selected and you can capture vibrant vistas that are full of colour and light

Landscape mode

■ Capture vibrant vistas using the Landscape scene mode. Ideal for those who love exploring the outdoors, this setting will make the most of the scene by increasing overall image contrast and colour saturation. You'll notice in particular that blue and green hues really stand out in this mode, which helps to create a bold, picture-perfect shot.

To ensure you get the best exposure in camera, the Landscape scene mode will also

select a smaller aperture setting to shoot with, which increases depth of field. This results in the landscape appearing much sharper in the foreground, remaining sharp onto the background.

If you're shooting in bright conditions, you'll be able to photograph with the camera handheld. Low-light landscape scenes that are taken during the golden hours (sunrise and sunset) may require a tripod support. Supporting your camera avoids

camera shake, which is a result of camera selecting slower shutter speeds for an even exposure.

In Landscape scene mode you won't have to worry about getting a good exposure, and you can focus on framing. Follow traditional photographic rules such as positioning the horizon a third of the way up for balanced compositions. Experiment with perspective, too; changing your vantage point can often completely transform a scene.

Close-up mode

■ Use the Close-up scene mode to capture abstract and detailed still life shots. It's an ideal mode for photographing flowers, food, and jewellery. It works by selecting a wide aperture, which creates a shallow depth of field effect, perfect for isolating a subject from a background.

For best results, choose well-lit areas or soft window light indoors. You can use flash in this setting too, useful for illuminating subjects that are backlit. Remember when shooting up close, you want to capture detail, so pay attention to how light falls. Have enough contrast in the scene to add a sense of depth.

It's important that you use the correct focusing mode too. Close up captures that are out of focus

are noticeable. Use your autofocus mode and select a specific area on your subject for the camera to focus on. Alternatively, use your manual focus setting, which offers more control over where in the frame the shot will appear in focus. You may find that some standard kit lenses are limited when it comes to focusing, as all optics have a minimum focusing distance. Specialist macro lenses however, are designed to focus incredibly close to subjects, which is ideal if you want to capture true macro shots or abstract images. Don't forget to use your tripod when photographing close-ups too to stabilise your camera, ensuring clear and crisp results that are free from devastating camera shake.

“Close-up mode is ideal for photographing flowers, food, jewellery and many other interesting items”



Get some great close up shots of your subject using the specialist Close-up mode and a macro lens

Child mode

■ It's difficult to get sharp and focused shots of kids while they're playing, but by using the specialist Child scene mode, it's possible.

Unlike Portrait mode, the Child scene mode is designed to freeze action but still promises to deliver flattering portrait results at the same time.

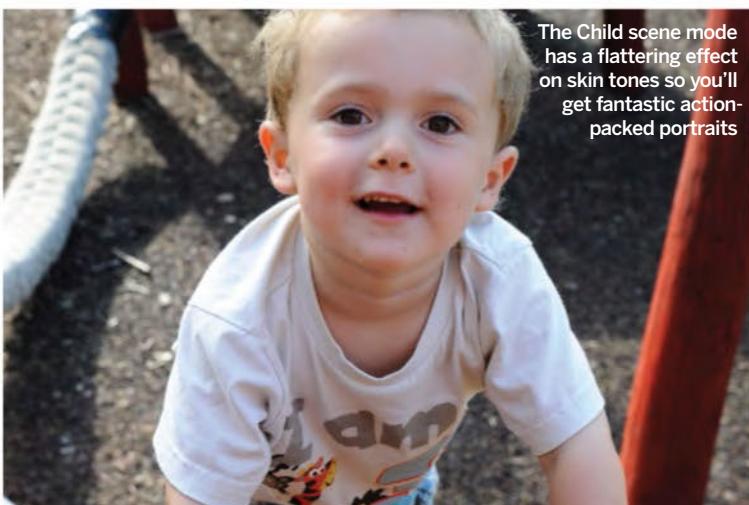
Using this mode, the camera will automatically select faster shutter speeds, which are ideal for capturing energetic kids and adults. Switch to Child scene mode icon to photograph children's parties or play dates at the park. Activities that involve a lot of movement, however, will require Sports scene mode, as it's capable of higher shutter speeds, which are necessary for fast-paced action shots.

As the Child scene mode is an extension of Portrait, you'll find it

“The camera will automatically select faster shutter speeds, which are ideal for capturing energetic kids”



Use the Child scene mode to photograph your kids at play. With fast shutter speeds you won't miss a minute of the action



The Child scene mode has a flattering effect on skin tones so you'll get fantastic action-packed portraits

also has a flattering effect on your young model's face. Skin appears softer in pictures with clearer colour tones too just as in Portrait mode.

Although the Child scene mode can produce great results in a lot of situations, you don't always have to use it when photographing your kids. Provided they are sat relatively still, you can shoot some great close-ups with the standard Portrait scene mode, which will create an artistically blurred background effect too – a result of the camera selecting wide aperture settings. As a rule, you should only need to use the Child scene mode when there's unfolding action and you're afraid to miss a priceless moment and great shot. In those situations it is a very useful mode indeed.



Work in the Sport mode to freeze any fast-moving action on the pitch. Using faster shutter speeds, you'll get clear crisp results



The Sport mode is ideal for wildlife and pet photography too as you'll be able to freeze unpredictable movement

Sport mode

■ Avoid capturing blurry action shots by freezing it as it unfolds using the dedicated Sport scene mode on your mode dial. You don't have to shoot just sport with it either; it's useful for other action packed activities too, and can come in handy if you're shooting wildlife or pets. Use Sport mode if you're shooting a local football team, surfers on the beach or kids riding their bikes, and you're in a better position to be able to capture all the action as it happens.

In fact, the Sport scene mode works in a similar way to the Child scene mode, but uses much faster shutter speed settings and disables the use of flash. With faster shutter

speeds assured in this mode, you'll be able to shoot handheld and get up close for dynamic shots from a more unique perspective.

To ensure your subject appears sharp and in focus within the final photo, always check that you're using the correct autofocus setting too. Continuous AF or Tracking AF are ideal for use with your Sport scene mode setting, as they will keep your subject in focus as they move.

Action-lovers can use Sports scene modes while they are learning, but stepping up to Shutter Priority mode will let you take more control. Until then, Sports scene mode can help you get some stunningly sharp photos.

“With faster shutter speeds assured in Sport scene mode, you'll be able to shoot handheld and get up close to the action for more dynamic shots”

Setting a wide aperture in your Aperture Priority mode will result in an artistic shallow depth of field effect



A mode

Discover some of the fantastic creative effects you can achieve using your camera's Aperture Priority mode, which lets you control the depth of field

Aperture Priority mode is marked simply as 'A' on your Nikon's mode dial and is a manual-enabled mode. You can select a suitable aperture for your shot, while the camera is responsible for determining the ideal shutter speed for the best possible exposure. Aperture Priority is particularly useful for step-up users who are keen to explore the creative possibilities of manual control, without having to grasp the balancing act of exposure – which is something you need if you're working in Manual mode.

Most photographers use Aperture Priority to control depth of field in their photos. Depth of field determines how much of your frame is in focus. A shallow depth of field creates an artistically blurred background, which is popular in professional portrait photography and still life. The effect is created using a wide aperture setting, or what's known as a small f-number (between f1.4-f5.6). The wider the aperture, the more light that is let through the lens, which is why faster shutter speeds are generally set with them so as to avoid overexposing the image, something which is difficult to rescue in the post-production stages. Although wide apertures provide more creative results, you need to be wary of extreme settings. By using small f-numbers, such as f1.4, you will be limiting your focus range considerably, which

may result in only parts of a model's face appearing in focus when shooting portraiture, for instance, which is obviously not desirable.

When you're exploring the Aperture Priority mode, it's important to remember how f-numbers relate to settings. The smaller the f-number, the wider the aperture and so the shallower the depth of field. The larger the f-number (f8-f22) however, the smaller the aperture is, which results in more depth of field – the image appears in focus from front to back. Large f-numbers are popular with landscape photographers as they can ensure the scene appears sharp in the foreground, right through to the background. For clear landscapes shots, start in f-numbers around f11; the camera may opt to select slower shutter speeds as a result so have your tripod at hand to stop camera shake.

The lens you're shooting with determines the aperture settings available. Check the top of your lens to find what aperture range it offers. Top-quality lenses generally offer wider aperture settings but are also more expensive. Experiment with your Aperture Priority mode to determine

Use a wide aperture when shooting portraits to softly blur out the background and add focus to the model



how essential wide apertures are and whether it's worth investing in a new lens.

There are many creative uses aperture offers, which is why it is a popular mode for venturing out of the comfort of auto. Using the sweet spot, or focused area, which is created by wide apertures you'll be able to take great artistic images. Another advantage is that a wide aperture can let in more light: great for low-light conditions like indoor parties. Explore your aperture range and discover how it can really affect the outcome of your images.

“There are so many creative uses aperture has to offer, allowing you to take some artistic images”





P mode

Give yourself a better understanding of exposure by experimenting with your Programmed Auto mode, a much more flexible setting than Auto

The Programmed Auto mode is marked as 'P' on your mode dial. It's all too often overlooked as being a straightforward auto setting but, in fact, it offers a lot more flexibility, which makes it one of the best modes to explore after you get out of Auto and scene modes.

Using Programmed Auto, the camera will determine the best combination of aperture and shutter speed for an exposure. There's still room to be creative though, as you can take control over the final results by adjusting settings as you shoot, which makes it a more flexible mode. By changing one of the settings during a shoot, the camera will take care of the other, ensuring you still get an even exposure. Programmed Auto is capable of roughly determining what it is you're photographing so that you get the best settings for the shot, this makes it a great mode to explore if you're ready to take the next step.

Unlike the standard auto mode you'll also be able to adjust other camera settings, including flash and ISO among others. You can set your flash to illuminate low-light scenes or fill-in shadow areas on a backlit shot, but if you want to work without

flash, experiment with adjusting your ISO. ISO is an important part of the exposure puzzle, as it essentially increases the camera's sensitivity to light. This means that if your ideal shutter speed and aperture won't expose the image well enough, you can up your ISO to help lighten it up. Be wary of high ISOs settings, however, as they can produce noise within the image. If you're unsure, revert back to auto ISO and let the camera take care of it.

Once you've selected the Programmed Auto mode on your mode dial, the camera will meter the light through the lens; it will then determine exactly what settings you'll need to shoot. From this, you can make further adjustments depending on what it is you want to incorporate into the scene. You may notice, for example, that the aperture setting is narrower than you would like. To adjust

it and get a shallower depth of field effect, simply rotate the command dial to set a smaller f-number. The same can be done to adjust shutter speeds too if you want to freeze action or add motion blur.

As Programmed Auto can produce endless exposure combinations, you can use it to shoot absolutely anything that you could want to. However, if it's really creative effects you're after, you have to progress to your full Manual mode or the Aperture and Shutter Priority settings. In the meantime, use Programmed Auto to help improve your understanding of exposure. When you're ready to work in Manual mode, take the same settings from Programmed Auto and see first-hand how slight alterations can affect the outcome of your shots. This really is a great mode for beginners looking to progress their skills.

“Spend time experimenting with different aperture and shutter speed combinations, which you can then compare to see what really works for you”

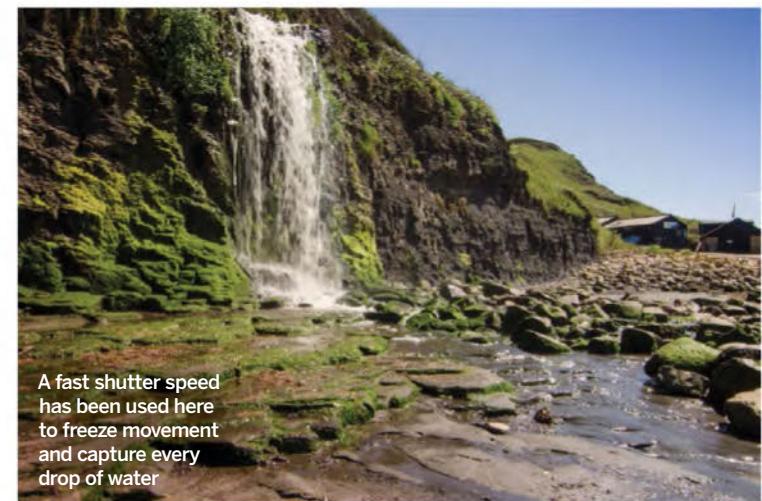
Programmed Auto is a more flexible shooting mode for beginners

In Programmed Auto you can experiment with setting combinations without having to fully understand exposure





Use a slow shutter speed to blur moving water, creating an artistic effect that really stands out



A fast shutter speed has been used here to freeze movement and capture every drop of water



S mode

Learn how to freeze action and incorporate motion blur in your shots using the Shutter priority mode, a great setting for action shots

Now it's time to rotate the mode dial around to S to select the Shutter Priority mode. It works in the exact opposite way to the Aperture Priority mode, in that while you select your ideal shutter speed, the camera takes care of the aperture to ensure a balanced exposure. Using the Shutter Priority mode, you'll be able to experiment with shorter or longer exposure times.

Using this mode on your Nikon camera, you'll be able to determine how much light reaches the sensor from the lens. Faster shutter speeds, that are only a fraction of a second, will let in the least amount of light, so to avoid underexposing your image, the camera will compensate by using wider aperture settings, to let in a larger volume of light. Fast shutter speeds are ideal if you're shooting action-packed images, as they're quick enough to freeze movement, preventing blurry shots. Always work with faster shutter speeds if you're photographing children, wildlife, sports or pets.

Slow shutter speeds on the other hand, can range between 1/60sec to a full 30 seconds. An increase in exposure time means you'll need to use a tripod to ensure you get a steady shot. As a general rule, it's still possible to shoot handheld with the camera, provided you're working with shutter speed settings that are no slower than 1/60sec, depending how stable your handling of the camera is. To avoid

overexposing an image that has a longer exposure time, the camera will set a smaller aperture, which will reduce the amount of light that's let in through the lens to the sensor. If you're working with extreme long exposures however, you'll need to use an ND filter to further reduce the amount of light that passes through the lens. ND filters are commonly used by landscape photographers who want to capture cloud movement or misty water effects in their scenes, by extending shutter speeds and using smaller apertures for increased depth of field. Generally, long exposures are ideal if you're shooting stationary subjects under low-light conditions or at night. Some cameras even offer what's known as a Bulb mode, which means you can open the shutter for as long as you like, until you opt to press the shutter release button again.

There are plenty of other creative shooting techniques you can explore. Panning, for example, is a fantastic way to illustrate speed in a sport or energetic subject. Simply set a slow shutter speed of around 1/50sec and focus on your subject. Once you open the shutter, you'll need to pan with them



Use your Shutter Priority mode to incorporate a sense of speed in your shots. The camera will determine the aperture for an even exposure

until it closes ensuring that you minimise shake as much as possible. The results should allow your subject appear nice and sharp while the background is softly blurred. You can also create a zoom burst by zooming out quickly while the shutter is open for a creative, directional blur.

You'll find some fantastic shooting techniques are possible in Shutter Priority mode, which makes it worth experimenting with a bit before you're ready to step up to full Manual mode.

“Using Shutter Priority, you'll be able to experiment with much shorter or longer exposure times”



M mode

It's finally time to take complete control over your exposure settings in Manual mode and discover all of the creative possibilities available

The Manual mode is the most advanced option on the mode dial, as it can offer complete control of your exposure settings.

Rotate the dial round to M to select the manual mode on your Nikon camera and program in your ideal shutter speed and aperture setting. Using the Manual mode, you can experiment with different photographic effects and techniques, offering you complete creative control over the outcome of your images, though this will take a bit of trial and error.

It's a good idea to get a basic understanding of what makes a balanced exposure. You can find this out exploring the Programmed Auto, Aperture and Shutter Priority modes first. Using these modes you can select either your shutter speed or aperture setting while the camera takes care of the rest.

When you're working in these modes, pay attention to how the camera compensates for the setting you select as this will help when you move to manual. If you're working with a wide aperture, notice the shutter speed setting that the camera opts for. You can dial in these settings as a starting point using the Manual mode, and begin exploring different combinations of shutter speeds and apertures.

When you're working in Manual mode, select a shutter speed, remember faster speeds freeze movement, while slower ones capture motion. You can then select your aperture, remembering that the smaller the f-number the wider the aperture. Wider apertures create a shallower depth of field, which is fantastic for close-ups and portrait captures, while a narrow aperture (high f number) keeps the focus sharp from front to back.

As you're setting your exposure, preview the light meter, which is visible inside the viewfinder. This will give you a clear indication as to whether your settings will under-, over- or correctly expose the scene. Based on this, you can adjust your exposure settings until you're ready to shoot. Ideally, the marker should appear below 0. If it's too far to the right, your shot will appear underexposed; if the

marker is too far to the left = overexposed.

After you've taken your shot, preview it on the screen. Check the histogram, which lets you know how much detail you've managed to capture in the shadow and highlight areas. A histogram of a well-exposed photo should show a mountainous range in the middle; it shouldn't spike up at either end as this means you may need to re-adjust your settings.

Once you've got a good grasp on how to achieve a balanced exposure, you can explore all of the other creative photographic possibilities. Using a tripod you can extend the shutter speed when photographing a seascape and water will appear as mist. You can also discover the potential in wide apertures by embracing the shallow depth of field effect when photographing portraits. Don't be afraid to experiment.

“Using the Manual mode, it's possible to experiment with different photographic effects and techniques, offering you complete creative control over images”

Use a narrow aperture to keep it sharp from front to back

A wide aperture will cause the areas surrounding your focus point to blur out





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The principals and application of metering

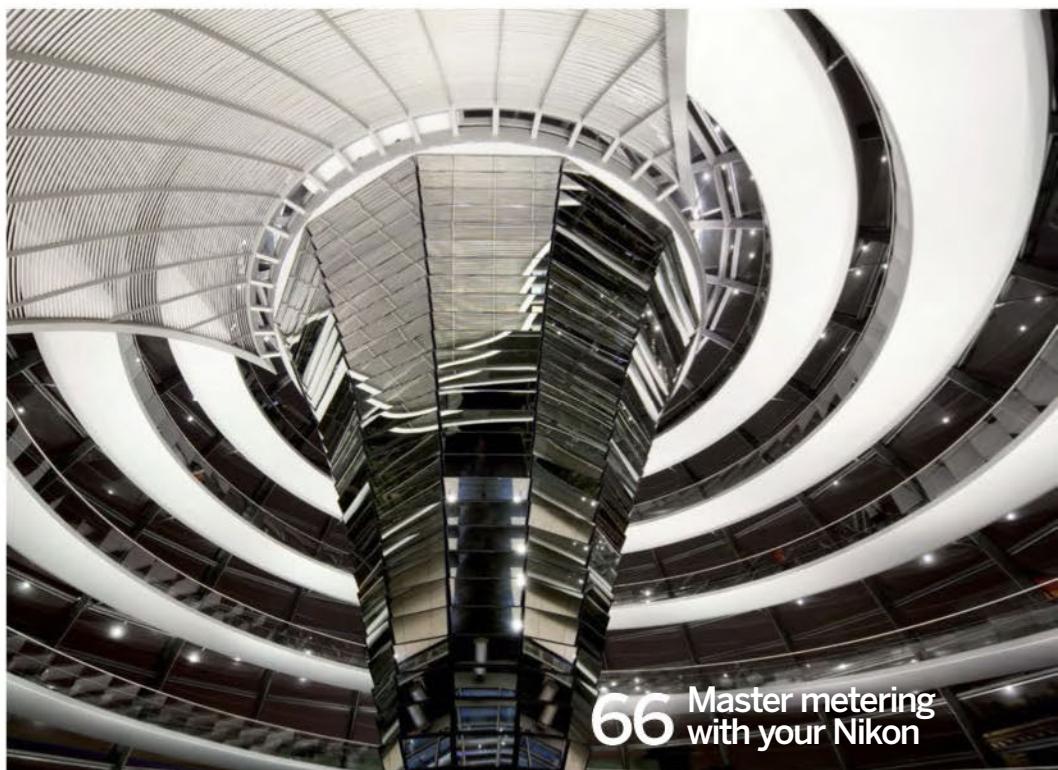
72 Using flash

Get the hang of this tricky technique

78 A guide to filters for landscapes

Enhance your Nikon's creativity with filters

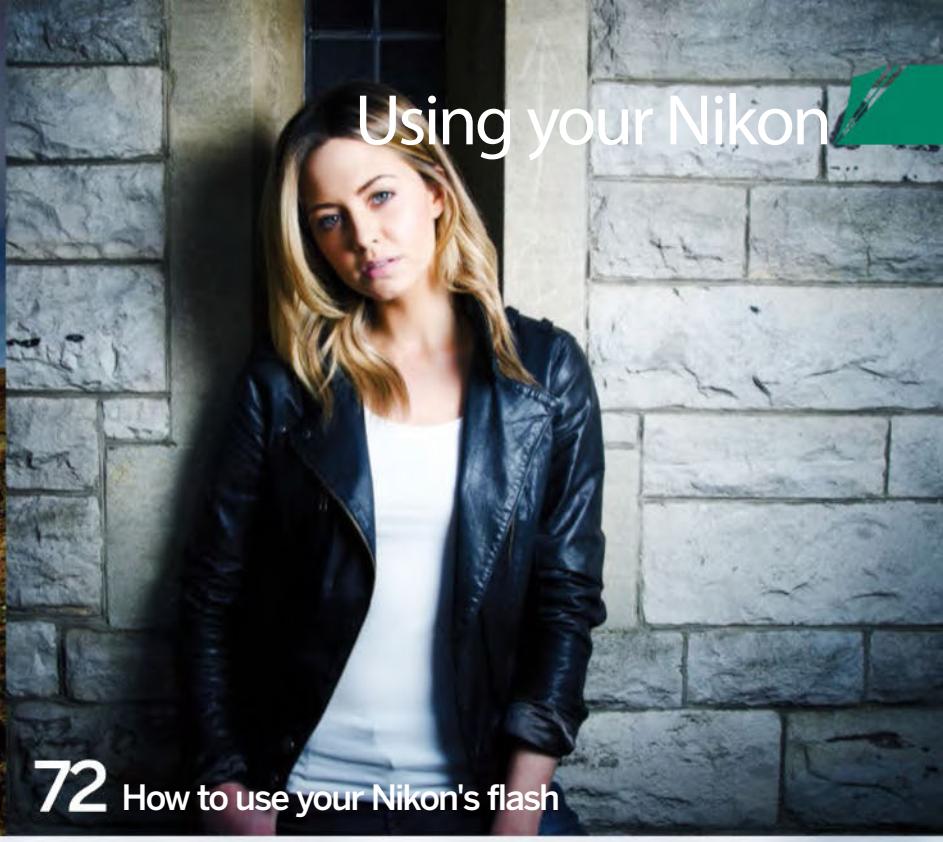
“For landscapes, we can control natural light with filters”



66 Master metering with your Nikon



78 Use filters to achieve creative effects



72 How to use your Nikon's flash

“When it comes to judging a photo, few factors matter more than focusing”



56 Stay sharp



Works best with
Nikon
D4S

COMPOSITION

This amazing sunrise shot demonstrates the importance of strong composition when you're trying to create a striking and attractive image. The row of beach huts acts as an effective lead-in line

Composing images with your Nikon

Understanding the principles of composition can help to complement your natural eye for an image. Here is a guide to the rules and how they're best applied



“Just by changing your own viewpoint, you can completely change the appearance of the photo”

▲ SHAPES

Shapes are one of the simplest compositional elements and work especially well as silhouettes. Here, a long focal length has isolated this boy sitting on a rock against the glow of a setting sun

Composition is the way you organise the different elements on the scene in front of the camera.

It's tempting to imagine that the world is just the way it is, and all you can do is just turn up, point the camera and take the picture, but there's a lot more to it than that. In the real world it's usually not possible to move objects around to fit your ideas – but you generally don't need to. Just by changing your own viewpoint, and sometimes the focal length of the lens you're using, you can completely change the appearance of the photo and the objects within it.

Composition in photography is like the rules of grammar in writing. If you don't put what you think in the right order, using the right words, with the right punctuation, no one's going to understand what you're trying to say. It's the same in photography. If you just shoot at random,

your pictures are going to look visually incoherent with no clear point of focus or meaning. But with a little compositional awareness, it's possible to draw the viewers' attention to your subject, create interesting juxtapositions between objects and get them to see and feel exactly what it is that you want them to.

Composition isn't just about making the meaning of your pictures clearer, though. Photographs can also be satisfying, challenging or intriguing on a purely graphic level, and this is down to the arrangement of the shapes, tones and lines in the picture.

The best-known 'rule' for creating graphically pleasing pictures is the 'rule of thirds'. This says that you should never put your subject in the centre of the frame, but a third of the way from the top or the bottom, or from the sides. In fact, many cameras can display grid overlays on the

LCD or in the viewfinder, which show you exactly where these 'thirds' are. If you were shooting a landscape, for example, you might position the horizon on the lower horizontal 'third' and a solitary tree on the left or right vertical 'third'. This is a pretty weak kind of rule, though. It's a good fallback if you can't think of a more interesting way of composing the picture, but that's about all. If you see an arrangement which you think looks better, you should use it.

There are other 'rules' to follow. For example, you must make sure that your subject is looking into the frame rather than out of it, and you should avoid any composition that leads your viewer's eye out of the frame. But maybe you want to emphasise the symmetry between the landscape and the sky, or the central, isolated position of a lone tree? Maybe you like having your portrait looking

► ANGLES

The jagged, angular feel of this picture was deliberate and has been emphasised by the zig-zag arrangement of lines



© Rod Lawton



© Rod Lawton

MOVEMENT

This is the classic example of the perspective and 'movement' of lines converging in the distance. These lines can go both ways, though! Because the train is pointing forwards, the 'movement' is from top left to bottom right

LINES

Lines are often implied rather than obvious. This line of boats carries your eye in a gentle curve from bottom left to upper right





EXPERT ADVICE

Dennis Reddick

Web: www.dennisreddickphotography.com

Dennis Reddick is a professional photographer who spends his time shooting stunning landscape shots of Britain's South Coast using a selection of lenses and polarising and graduated filters. Here he talks to us about his views on composition.

Composition clearly plays a big part in your photography. Do you believe in 'rules' of composition?

'Rules' are simply guidelines to help individuals think about composition. They are not cast in concrete or anything like that. If you did manage to make up a viewfinder with the lines embedded in the viewing screen and followed that consistently, you would more than likely ultimately wind up with some unexciting images. You can think about the 'rule of thirds' when preparing to make an image and see if it works for the given situation, but don't let it get your imagination stuck in the mud.

Do you plan the composition of a shot as you take it, or trust experience and instinct?

Experience and instinct, mostly, which can only be enhanced by going out with your camera on a regular basis. There are occasions when I've seen an image by a fellow photographer and I've added a slightly different angle which, to my mind, may add a bit more character to the whole scene.

How long do you spend composing photographs, and do you aim for one single 'right' one or take a variety?

Believe it or not, with about 90 per cent of the photographs from my website I have intentionally gone for that one 'right' shot. I tend to stay with the camera fixed in one position for composition and shoot various exposures, especially at sunrise and sunset.

What do you think is the single most important thing to get right when you frame a shot?

Making sure there is no unwanted object or empty space which distracts you from the main subject. If I shoot an individual object I tend to compose it so that approximately two thirds of the area is filled. I have taken images with space as the main concept, but you have to be careful that it doesn't detract from the whole image.

Do you have a favourite editing technique for enhancing your shots later, such as burning in, for example, and why?

If I want to add a bit more depth or clarity, I tend to duplicate the image and add a slightly darker exposure and erase the unwanted bright areas. I then add a duplicated 'bright' exposure to the unwanted dark areas. I find on some images this gives me more punch throughout the photograph than when using the levels or curves.

► out of the edge of the picture, because it hints at some unseen event and introduces a note of tension or unease? Rules are there to be broken, especially rules of composition, but this only works if you know what they are in the first place, and you break them clearly and deliberately and for a reason.

The arrangement of objects and shapes affects the meaning and mood of the picture, and they also affect the sense of 'movement' in the image. The eye doesn't absorb the whole photograph in a single instant as a static image. Your eye moves from one object to another, sometimes in curves, sometimes in zigzags. This movement is a key part of the photograph's appeal, or at least the extent to which it holds your attention. It's perhaps why you can quickly get bored with a photo that initially looks great, but become more and more fascinated by one which doesn't have a big initial impact but does have a lot of compositional complexity.

The most obvious way to create this 'movement' is with lines. These can be very literal, such as railway lines converging in the distance, or 'implied', such as the direction of the subject's gaze in a portrait. Pictures can have a single, dominant line or they can have a number of lines which direct your gaze in a certain direction, following a certain route around the picture, or form a more complicated interlocking structure.

Shapes are very important in photography, too. They might be easily-recognised shapes such as human figures or silhouetted trees, for example, which gain extra power when they stand out starkly against a contrasting background, or they could just be areas of tone rather than specific objects. These are just as important in terms of composition, however, because they contribute towards any picture's feeling of 'balance'.

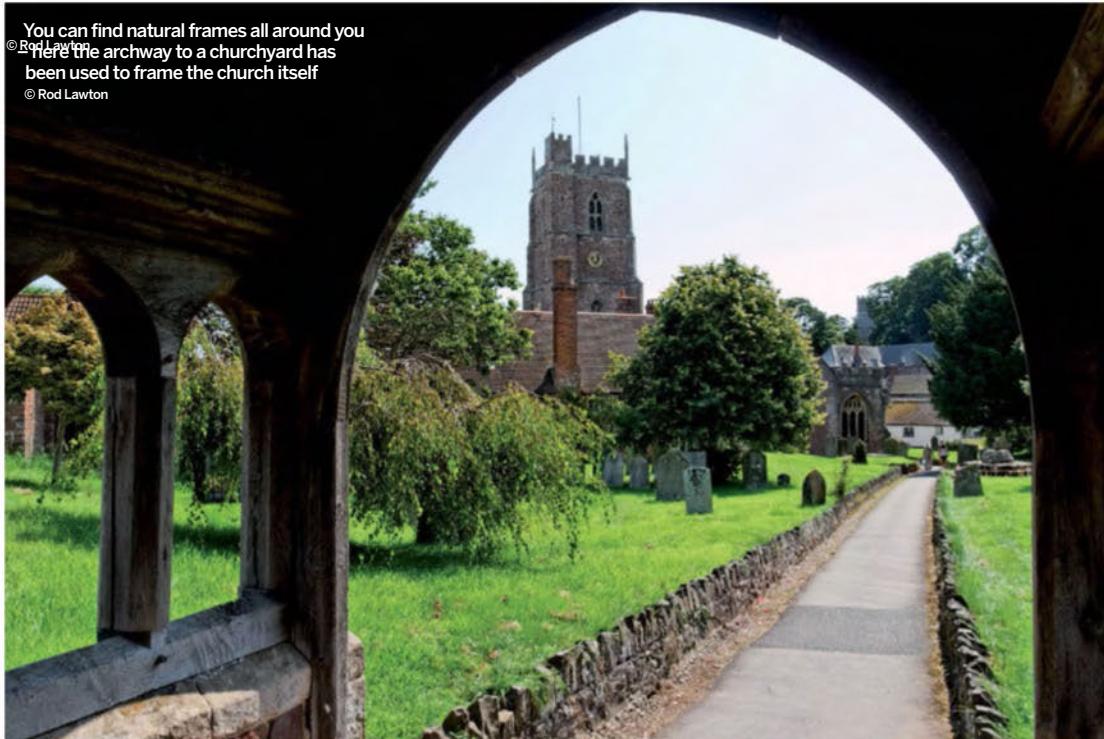
Shapes can be used as natural frames to draw attention to your subject and to prevent the viewer's gaze from wandering out of the picture. Look out for archways, overhanging branches, gates, hedges... you can find natural frames almost anywhere.

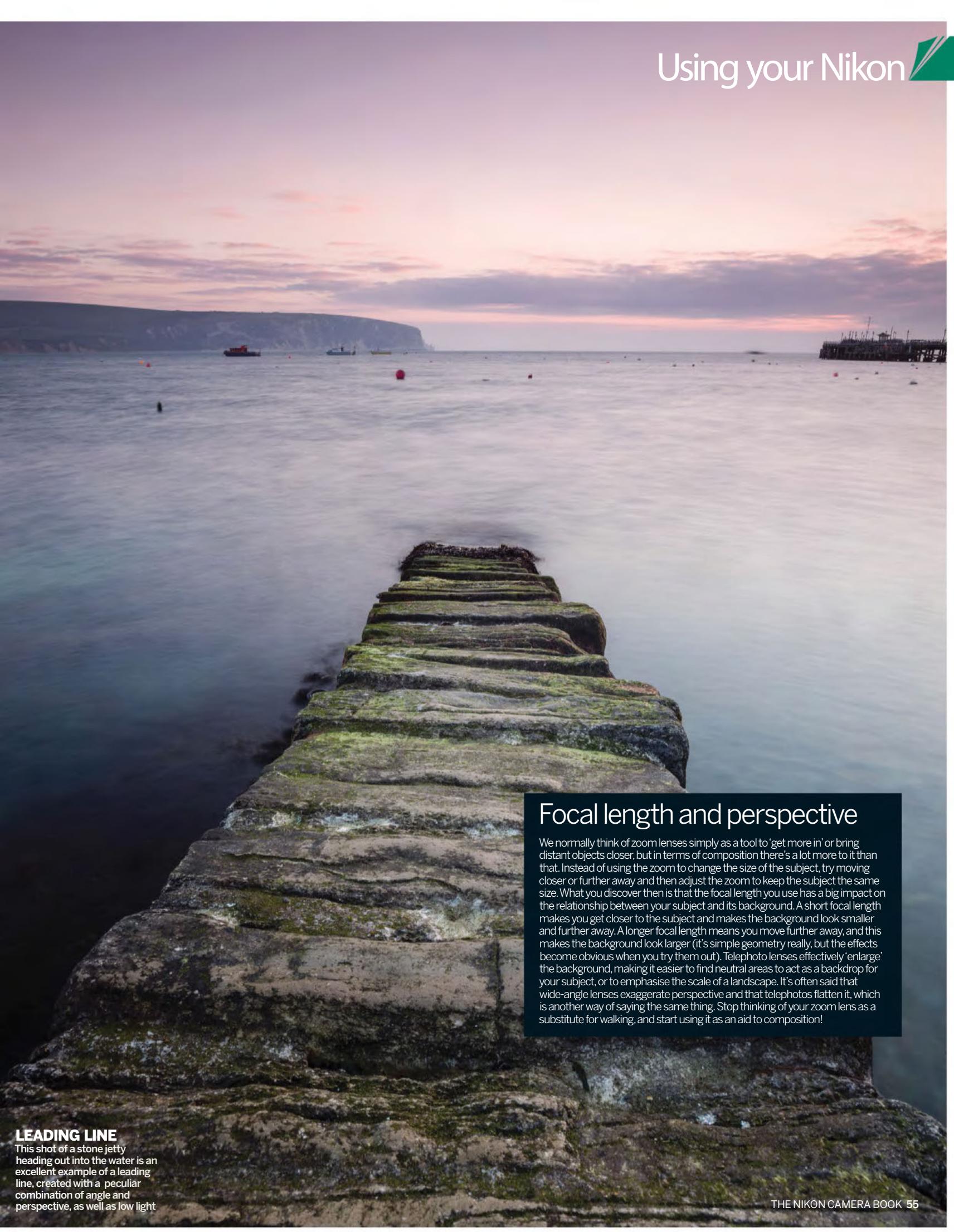
Composition is part-science, part-instinct. The science is the way elements of the picture work together and affect the way you see it. The instinct is the way you as a photographer combine those elements in your own unique way.

CHANGES

There are many different ways you can shoot the same subject. The spider's web in the shot on the far left has been used as a framing device to focus attention on the spider itself. With a very small change in viewpoint, the shot on the left shows that you can produce a totally different result. Here the spider's been silhouetted against the early morning sky to emphasise its shape

You can find natural frames all around you
Here the archway to a churchyard has
been used to frame the church itself
© Rod Lawton





Focal length and perspective

We normally think of zoom lenses simply as a tool to 'get more in' or bring distant objects closer, but in terms of composition there's a lot more to it than that. Instead of using the zoom to change the size of the subject, try moving closer or further away and then adjust the zoom to keep the subject the same size. What you discover then is that the focal length you use has a big impact on the relationship between your subject and its background. A short focal length makes you get closer to the subject and makes the background look smaller and further away. A longer focal length means you move further away, and this makes the background look larger (it's simple geometry really, but the effects become obvious when you try them out). Telephoto lenses effectively 'enlarge' the background, making it easier to find neutral areas to act as a backdrop for your subject, or to emphasise the scale of a landscape. It's often said that wide-angle lenses exaggerate perspective and that telephotos flatten it, which is another way of saying the same thing. Stop thinking of your zoom lens as a substitute for walking, and start using it as an aid to composition!

LEADING LINE

This shot of a stone jetty heading out into the water is an excellent example of a leading line, created with a peculiar combination of angle and perspective, as well as low light

Stay sharp

Capture your sharpest shots ever with this genre-by-genre guide to the focusing techniques you need to know

Digital photography has a significant quota of science and technology in its DNA but, despite this, there's so much about it that's as subjective, unquantifiable and intangible as any other art form. All the clichés about one person's art being another person's trash hold completely true when it comes to photography.

This, of course, means that it's hard to definitively judge photography; what separates a great photo from one that's merely good? It often comes down to consistent technical proficiency in key areas. When it comes to making an objective judgment of an image, few factors matter more than focusing and its impact on sharpness and clarity. Images that display good focusing technique appear professional and well executed.

All too often, photographers assume that the sophisticated cameras and lenses that they use will take care of focusing for them and leave them to think only about the composition. However, more settings can often mean more problems so, it's vital that you understand how to get the best results, which is precisely what you'll discover across the next few pages.



KEEP FOCUSED

When using long focal lengths to get in close, keep supported using a tripod or keep your shutter speed higher than the focal length

© George Wheelhouse

Using your Nikon



Taking control of autofocus

Different subjects place very different demands on the autofocus algorithms. This is why many cameras feature so many different autofocus functions, so that you can fine-tune how the autofocus performs. The process of refining your camera's AF performance begins with selecting a focusing mode. In AF-S or One Shot AF mode, the camera will focus one single time whenever the camera button assigned to autofocus is pressed. In AF-C or AI-Servo mode, the camera's AF system will continuously attempt to focus the lens on the subject for as long as the shutter or AF button is pressed. In AF-A or AI Focus AF mode, meanwhile, the camera automatically chooses between AF-S and AF-C on your behalf.

Autofocus is of particular significance for sports, action and wildlife photographers, who need to be able to capture sharply focused images of moving subjects – and their movement can't necessarily be easily predicted, as wildlife pro Alan Hewitt (www.alanhewittphotography.co.uk) explains. "Being able to accurately and consistently acquire and maintain focus on moving targets is probably at the top of wildlife photography challenges," he says. "There is a huge amount to consider. Some birds move at remarkably fast speeds and many with an erratic and unpredictable flight path too. The surrounding landscape can also present difficulties. Physical obstacles and other wildlife around you are a perfect distraction for your eye and your camera's autofocus system."

Hewitt finds that selecting AF-C/AI Servo mode makes a big difference to the success rate of the participants on his workshops and, though Hewitt prefers the reliability of single-point AF-Area mode, he says he often finds that using a dynamic AF-Area mode when he does encounter fast movement in his subject of choice makes a significant impact on focusing success.

Depth of field, which is determined by the way that aperture, focal length and focusing distance interact, must always be considered. "With



SEE CLEARLY

Whether you're shooting landscapes, wildlife or macro, perhaps the most important element to master is creating an attractive and appropriate level of sharpness. It takes practice, but it's worth it

SEA EAGLE

Alan Hewitt: "Photographing from a boat comes with additional complications too. Luckily my subject was one of the largest eagles in the world so it was big enough to track, while I was bobbing about too"

MINIMUM SHUTTER SPEED

For the sharpest shots you should not attempt to handhold the camera at shutter speeds that are slower than the value of the focal length you are using. So, a 50mm lens should not be handheld at shutter speeds slower than 1/50sec. However, you need to consider the crop factor of your sensor if you are not using a full-frame camera.

Master AF-Area modes

Discover how some of the most commonly encountered settings work and when to use them

AF-AREA	HOW IT WORKS	WHEN TO USE IT
Auto-Area AF/ Automatic AF Point Selection	In this mode, your camera is allowed to select the AF point of its own choosing, irrespective of whether you are using AF-S, AF-C or AF-A.	This is best suited to non-critical situations in which precise focus doesn't matter or to situations in which simply getting something is all that matters.
Single-point/Manual AF Point AF-Area	This mode enables you to choose a specific autofocus point, which the camera will use to lock focus, irrespective of whether you are using AF-S, AF-C or AF-A.	This is the best AF mode to choose whenever you are photographing a static subject, as it provides the complete control over where the camera will focus.
Dynamic/Expansion AF-Area	For use with AF-C mode. You choose a starting AF point but the camera's algorithms try to maintain focus using, for example, an additional 9, 21 or 51 points. 3D tracking, using all available points, can also be selected.	This is intended for moving or unpredictable subjects, making it an ideal option for sports, action and wildlife photographers.

Focus for wildlife

Alan Hewitt's top tricks for sharp animal images

- **Think about your background**
Autofocus is much more efficient at maintaining focus with high contrast. Position yourself so there is contrast between your subject and the background.
- **Think about the wind direction**
Your camera's AF will perform a lot more consistently with a slower subject. Position yourself with the wind on your back, as a subject that's flying towards you is likely to be flying slower than it would with the wind behind it.
- **Learn the fundamentals about your subject's habits**
For example, birds of prey often defecate before they take off, geese can become incredibly vocal before they take flight and most birds will try to take off quickly into the wind so they can gain lift.
- **Get your subject in focus in your viewfinder while it's in the distance**
You'll give your autofocus more time to acquire focus and it will be much easier to track and follow compared to taking a stab at something considerably closer.
- **Improve your panning technique**
There is no tripod head that offers more freedom than panning handheld. Support your lens with one hand while your other grips the camera. Keep your elbows tucked in and pan by twisting your waist.

“No tripod offers the freedom of panning handheld”

CAPTURE CONTRAST
Make the most of the scene by contrasting background and foreground colours



PAN THE SHOT
In order to pan effectively in an image, hold your camera still and move from the waist

© Alan Hewitt

Autofocus for action

Camera settings for getting pin-sharp shots of movement



Focus with your thumb Many cameras feature a button on the rear that can be set to trigger the autofocus. This enables you to focus independently of the shutter button.

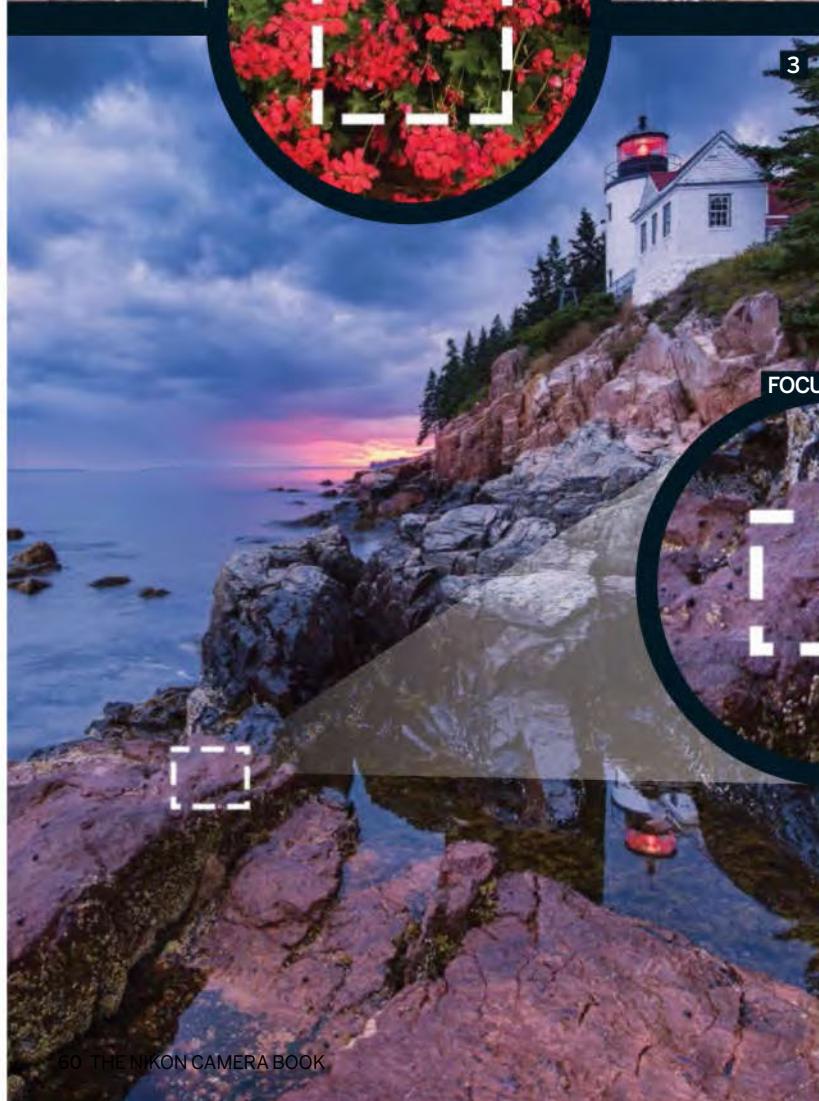


Adjust the autofocus Set your camera to its continuous focus mode and dynamic or expansion autofocus to enable your camera to keep track of moving subjects.



Prioritise focus Many cameras enable you to customise the way that they function, so that the shutter can only be triggered when the lens has been properly focused.

Using your Nikon



Depth of field for landscapes

Pro Michael Blanchette talks about how he assigns scenes into categories

1. NO DEPTH OF FIELD

Every once in a while, I run into a simple scene that doesn't require me to consider the depth of field. This is the case when photographing a subject like this rustic wall. The wall runs parallel to the camera plane and involves no near-far objects to complicate the focusing method. Here, I simply set my camera to its optimal aperture (f8 for my lens) and set the focus on the flower box to yield a sharp image.

2. SLIGHT DEPTH OF FIELD

A scene with a small depth of field is one where the nearest and farthest objects are sufficiently distant from the camera – such that they can all be rendered in focus without special consideration. This photo of sea stacks on the Isle of Lewis is a prime example of this. In this instance, I focused on a stack near the middle of the frame to bring all objects into focus, using an optimal aperture of f8.

3. MEDIUM DEPTH OF FIELD

Hyperfocal distance is a more accurate way to set focus in cases that involve both near and far objects. I often use a DoF calculator app to determine the hyperfocal distance. The calculator allows me to see precisely where to set focus in the frame. Here, the foreground rocks are just a few feet from my tripod location. I entered the focal length of my lens and distance to the closest rocks into the DoF calculator, and it returned a focus distance of just about five feet.

4. EXTREME DEPTH OF FIELD

These situations are difficult. The least desirable technique is to reduce the aperture to f22 or smaller. The second approach is to focus stack – start by focusing on the closest object and make small focus adjustments with each photo until the furthest object is in focus. The images are combined in post-processing. The last approach involves using a tilt-shift lens to get greater depth of field without reverting to small apertures. The poppy photo was taken with a tilt-shift lens at f11, with the closest poppies being about two inches from the lens.

► “wildlife photography my preference is to maintain creative control over the depth of field,” continues Hewitt. “I always shoot in Aperture Priority and continually adjust the ISO sensitivity to give me the shutter speed I need. If you are photographing birds in flight in bright conditions, don't be afraid to use a narrow aperture to add more depth of field. On a Nikon DX camera, such as the D7000, using a focal length of 300mm at f5.6 on a subject ten metres away gives us a depth of field of about 24cm. If the ambient light is bright enough for us to maintain an adequate shutter speed at an aperture of f11 we can double the depth of field. This means more of our subject will be in focus so we have a little bit more of a margin if our autofocus has perhaps locked onto another part of the subject.”

Make the most of manual

Many photographers find manual focus to be a fiddly and potentially inexact process, not least because the split-prisms of yesteryear made manual focusing less imprecise than the pentaprism of today. Despite this, manual focus is the technique of choice for many photographers.

“I always shoot in manual focus mode,” says landscape photographer Michael Blanchette (www.michaelblanchette.com). “While it's certainly possible to produce well-focused images using autofocus (as many photographers do), I personally prefer the consistency of manual focus. Since I take many photos at the edge of day, I find autofocus performs inconsistently under low-light conditions and, at times, the focus points can't reach the area of the frame where I want focus.”

However, today's landscape photographers make use of Live View in order to make manual

USE LIVE VIEW

Using Live View enables photographers to zoom in on a specific area of the scene and check that it's perfectly focused.

focusing more straightforward. “Live View is an important addition to digital cameras that allows the photographer to use the bigger LCD as a viewfinder,” says Blanchette. “I often use the Live View feature on my camera to zoom in and focus more accurately, especially in cases requiring greater depth of field.”

The biggest concern for landscape photographers lies in getting the maximum depth of field possible. “In landscape photography, the main challenge is to ensure that all elements in the photo are tack sharp, front to back,” says Blanchette. “The generally accepted benchmark for landscape photos is that they must retain focus throughout the frame.”

Autofocus systems don't attempt to achieve this extreme depth of field. “Autofocus has no means of understanding the vision for an image without our input. On its own, autofocus will make a guess at the focus range and produce a good-enough photo. This is fine for a family snapshot, but not so for a landscape photo that may be printed large and licensed.”

Although many photographers assume that they need to use the smallest aperture possible, a popular alternative among landscape photographers is hyperfocal focusing. This enables you to focus on a specific, optimum distance. ►

FRONT TO BACK SHARPNESS

The main aim for the vast majority of landscape photographers is to achieve front-to-back sharpness, even in scenes featuring near and far objects



All images © Michael Blanchette

“The biggest concern for landscape photographers is depth of field”

Try hyperfocal focusing

Get to know the hyperfocal focusing distance for your lens focal distance and aperture

35mm sensor	f8	f11	f16	f22
16mm	1.14 metres	0.81 metres	0.57 metres	0.40 metres
18mm	1.45 metres	1.02 metres	0.72 metres	0.51 metres
21mm	1.97 metres	1.39 metres	0.98 metres	0.70 metres
24mm	2.57 metres	1.82 metres	1.29 metres	0.91 metres
28mm	3.50 metres	2.47 metres	1.75 metres	1.24 metres
35mm	5.47 metres	3.87 metres	2.73 metres	1.93 metres



► which is calculated according to the sensor size, aperture and focal length being used, with the intention of achieving the maximum amount of front to back sharpness. "Some photographers overuse [small apertures] just to make sure all the elements in the frame are brought into focus", says Blanchette. "But the penalty for using f22 can be a significant loss of sharpness along the edges of the frame, effectively reducing overall image quality. Use the optimum aperture setting for your lens, often f8, whenever possible for best results."

Pre-focus to be prepared

An alternative focusing technique is pre-focusing, which is an approach employed by street photographers and photojournalists – and some sports, action and wildlife photographers also – to cut out the inevitable delay caused by the focusing process when photographing moments that are so fleeting that any such delay will very likely result in the shot being missed.

There are two different types of pre-focusing. The first involves identifying an area of the scene in front of you in which something significant is likely to occur, pre-focusing the lens (using either autofocus or manual focus) on that point and then waiting for the decisive moment. The second is more accurately referred to as zone focusing, in which you pre-focus your lens in order to establish a zone of acceptable depth of field.

For example, you might focus your lens, using autofocus or manual focus, on an object that's ten metres away from you, knowing that any future subject will probably be correctly focused provided it's not outside the zone of depth of field determined by the aperture and focal length you're using. For instance, if you're using f2.8 and a 105mm lens, the zone in which your pre-focused lens can be relied upon to produce an acceptably sharp result will be much shallower than if you're using an aperture of f11 in combination with a 35mm lens.

When it works, pre-focusing is hugely beneficial, but making it work requires excellent anticipation, good spatial awareness and plenty of practice on the part of the photographer. Wedding photographers who need to capture split-second moments – immediately after the ceremony, for example – might employ zone focusing in order to negate the need to focus for each and every frame, but it would be unwise to attempt this at such an important



▲ LEARN TO PRE-FOCUS

Switching your camera into manual focus mode enables you to lock the focus, provided you do not nudge the focusing ring on the lens barrel

▲ PRE-FOCUS FOR ACTION

Pre-focusing enables you to cut out the delay caused by the focusing process when you are attempting to photograph fast-moving action and fleeting moments

▼ DON'T RECOMPOSE

By recomposing after focusing you lose sharpness, particularly when you're using wide apertures. Use an AF point close to a subject's eye

USE MIRROR LOCK-UP

The movement of the mirror can cause significant vibrations inside the camera, which can undo the careful focusing they've done, so many landscape photographers lock the mirror up before taking their images.

event without supreme confidence that you will be able to get it right.

Macro focusing

One of the most difficult focusing scenarios for photographers is macro imaging. At close focusing distances and high magnifications, depth of field is limited to the extent that even at apertures such as f22, little of the subject is in completely sharp focus, making it necessary to either use a slower shutter speed and a tripod or a macro flash setup to enable a small aperture and faster shutter speed to be used.

Some photographers attempt to resolve the focusing and depth of field challenges associated by employing a technique known as focus stacking, as Javier Torrent (www.500px.com/Javier_Torrent) explains. "Focus stacking consists of taking pictures at different planes of focus and then stitching them together. Think of it as a panorama shot, but instead of moving sideways I move the camera in-ways... I don't mind if the DoF is narrow

Focus for portraits

Getting your model's eyes sharp is vital so follow these top tips

Many portraits are captured using an aperture of f4 or wider. This creates shallow depth of field, which looks very attractive, but means that critical focus is vital. The subject's eye nearest the lens should be the sharpest point. As this point will hardly ever be at the centre of the frame, some choose to focus using their camera's central AF point and then recompose, but be aware that changes in the focal plane mean that after the composition has been adjusted slightly, the eye on which you focused will no longer be critically sharp. Aim to compose the shot correctly and then manually select an AF point closest to the eye.



“Pre-focusing requires excellent anticipation, spatial awareness, and practice on the photographer's part”



Shooting stance

Stand steady to avoid unwanted movement

1. DRAW ELBOWS IN

Draw your elbows into your body in order to create as much support for the camera as possible

2. CRADLE THE LENS

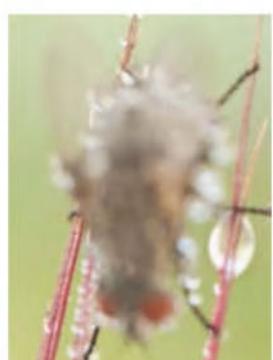
Ensure that your left hand is being used to support the lens. Depending on the focal length of the lens, you should also support the underside of the camera

3. GRIP THE CAMERA

Grip the camera as solidly as possible with your right hand, with your index finger resting over the shutter button and your thumb available to focus using the AF-ON button

4. KEEP YOUR BALANCE

Adopt a stable position whenever you are standing. Have your feet apart in order to ensure that you won't lose your balance



▶ because of high magnification and using wide apertures, as I can usually take as many pictures as we need."

Though not easy, focus stacking can be done in the field, "It's quite possible to perform relatively small focus stacks handheld, moving the camera a tiny distance between shots," says Richard Iles (www.flickr.com/photos/reallysmall).

Torrent plans his field-based focus stacking carefully. "To be able to focus stack insects you need to find them when they are cold and their activity is at its lowest, normally in the first hours of the morning or before sunset. When the Sun comes out they start to move, which makes stacking impossible. Also wind is a very big problem, no matter how stable your set up is. I always check the wind forecast before going into the field. The set up has to be absolutely rock solid; I use a wooden tripod, which helps to keep vibrations down, a good gear head, a linear stage and normally just take a couple of lenses."

Unsurprisingly, focus stacking is a relatively complex technique that can require a fairly significant time investment. "Running and post-processing the stack is a lengthy process, so it's advisable to be completely satisfied with the composition before continuing," says Iles. "Any parts of the subject to be included in the final stack should be visible in each image that contributes to it," he says. "It's a good idea to move the camera through the entire range of the intended stack, as due to the effects of perspective, parts of the subject visible at one end may have moved out of the frame by the time the other end is reached! The camera can be moved and triggered manually for each focus step. However, this needs extreme consistency and patience, as many stacks require hundreds of images to complete. If any of the steps made are inadvertently too large, a focus slice will be missed – resulting in a blurred band in the final image, which is often only noticed towards the end of the process. There is no easy way to fix this other than to start the stack again."

Many macro photographers take focus stacking so seriously that they invest in more specialist equipment. "To move the camera with precision, we need special industrial rails called linear stages with micrometer actuators," explains Torrent.

Although Zerene Stacker and Helicon Focus are very popular options for processing component frames into the final stacked image, Photoshop also has a function for this. Simply go to File>Scripts>Load Files into Stack and then Edit>Auto-Blend Layers.



© Emiliano Pani



© Alan Hewitt

▲ DEPTH OF FIELD LIMITS

At high magnifications, focusing becomes critical because of the limited depth of field on offer

▶ FOCUS MATTERS

There's nothing worse than finding that a great image has been let down by poor focusing technique, so invest time in learning how to get it spot on. "An un-cluttered background helps with tracking and maintaining focus," says Alan Hewitt

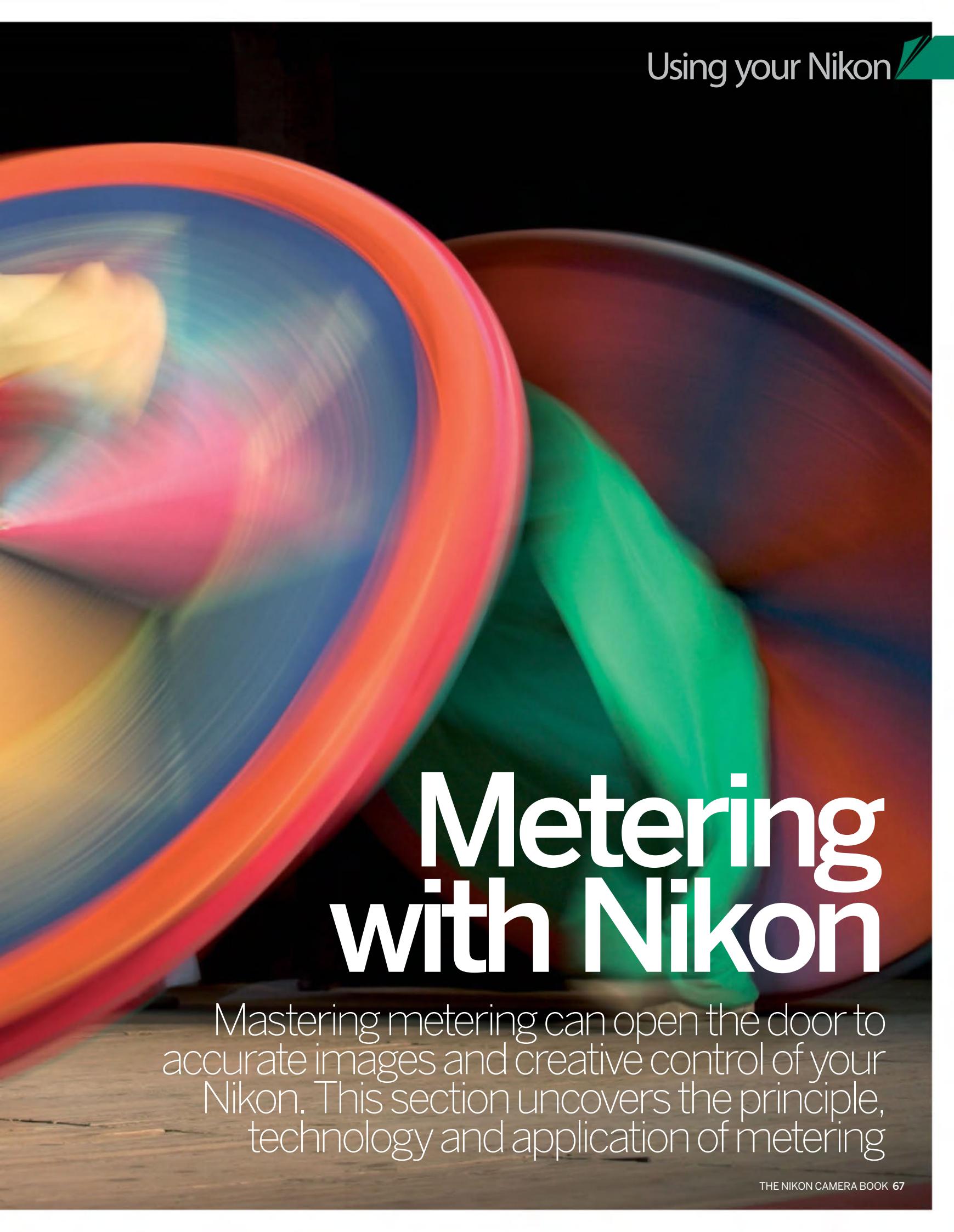


Works best with
**Nikon
D4S**

CENTRE-WEIGHTED METERING

All of the action is in the centre of the image, so with the camera set to centre-weighted metering, the edges of the frame play no part in the calculation

© David Clapp



Metering with Nikon

Mastering metering can open the door to accurate images and creative control of your Nikon. This section uncovers the principle, technology and application of metering



“Everything we see contains varying levels of light intensity... A good photograph renders the scene balanced, as it appears to the eye”

With Nikon camera technology breaking boundaries as the digital revolution advances, photography is looking like a complicated ship to steer. Camera controls are becoming so sophisticated that as the manuals get thicker, the technological soup seems harder and harder to wade through. Camera metering, its modes, functions and subjectivity can be just as confusing, so just how do you learn to read the light?

Everything we see contains varying levels of light intensity. From bright light streaming through a window to the dark shadow tones in a room corner, a good photograph renders the scene balanced, as it appears to the eye. All modern cameras, from an everyday mobile phone to a professional Nikon DSLR, have metering capabilities to assess these levels of light correctly for the ideal shot.

Prior to digital technology, the only way to measure light was by using a separate handheld light meter. Before camera technology advanced and in-camera metering became more commercially viable in the Sixties, there was simply no other option. Imagine it – no histograms, not even a viewfinder needle to assist; just a handheld meter and some good understanding. Despite feeling somewhat underpowered, many photographers still use handheld meters as a preference. Portrait photographers can't work without them and these feelings are still alive in the world of landscape photography, too.

Remember that film is far from dead. As large-format landscape photography is making a popular resurgence, many photographers enjoy the slower pace and the accuracy of handheld metering. It's the only form of measurement available to them, as the camera is electronic-free.

The first concept to fully understand is the two distinctly different ways that light can be measured using handheld meters and cameras alike. Reflected metering is where, like all 'through the lens' in-camera metering systems, the camera takes measurements based upon the light reflected from the subject surface towards the camera. The second method, incidental metering, is the measurement of light falling onto the subject from a light source, using a handheld light meter. Reflected light from the subject's surface is not measured in the reading.

Unfortunately, reflected light can cause problems. Different surfaces and textures reflect light in different intensities, varying from subject to subject. In-camera metering combats this problem by basing calculations on light reflected from a tone in the middle of the luminance range, a 'midtone' or 'middle grey'. ▶

▼ USING SPOT METERING

Spot metering from the grey lamppost stopped the camera from metering the confusing background incorrectly



EXPOSURE COMPENSATION

Spot metering this eider duck's plumage and exposure compensating by overexposing by +1.5 stop keeps those whites bright



© David Clapp

Expert advice

Learn how to choose the correct Metering mode for the scene and set the appropriate focus points

DIFFERENT METERING MODES: Most cameras are equipped with a number of different in-camera metering modes, but understanding how they work and when to use them will only add greater creativity to your photographic approach. Let's examine the five main styles of metering systems:

CENTRE-WEIGHTED METERING: When pointed at a scene, the camera biases the light reading towards a central zone and pays less attention to light values at the extreme outer edges.

PARTIAL METERING: Similar to centre-weighted metering, but the light-gathering area is rapidly reduced to a smaller zone (10-15%) in the centre of the frame.

SPOT METERING/MULTI-SPOT METERING: The metering area is concentrated in a small spot (3%), ignoring all light levels outside this greatly reduced zone. Cameras that have multi-spot metering let the photographer use this small zone to take spot readings from key points around the composition. The camera then averages these readings.

AVERAGE METERING: The camera does not add any specific weight to any zone when measuring the light across the frame. Instead, it averages the light reading from edge to edge without bias to any particular tonal area.

MATRIX/EVALUATIVE METERING: By far the most technical metering system and one that photographers

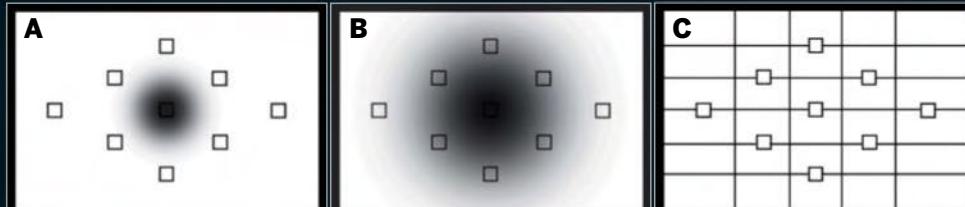
love. The screen is divided into small segments and individual readings are taken. The camera then evaluates the light in each segment and evaluates the correct exposure.

AF POINTS: It is also important to remember that as you change the AF point, so the camera can bias the exposure. This is particularly useful when autofocus is tracking an object, or when a static subject is not positioned in the middle of the frame. Some cameras also give the option to link or unlink this facility.



© David Clapp

This scene is ideal for evaluative metering. It contains a wide range of tonal values from dark to light. These zones are not uniform across the frame, so the camera segments the readings to achieve an accurate exposure



Spot metering (A), centre-weighted metering (B) and matrix/evaluative metering (C) as they appear in the viewfinder. The difference between these three popular metering modes is based on biasing the results. Although centre-weighted and spot metering are essentially reacting in the same way, the spot metering zone is much smaller. Evaluative approaches metering in an entirely different way, taking readings from each of the segments



© David Clapp

Nikon metering options

How your Nikon camera controls metering

Your Nikon camera can offer you a choice of three metering modes. Each one is useful for certain kinds of shot under certain kinds of lighting conditions. The metering sensor inside your Nikon camera measures and responds to light to help you balance your shots or compose creatively. Set your metering options to one of the following depending on the kind of shot you're taking.

Matrix metering (also known as evaluative metering) is used to balance your shots. It meters the entire photograph and tries to allow for a balance of light and dark across it. This is perfect for well-lit scenarios such as daytime landscapes, but less suitable if you have any directional lighting involved such as a sunbeam or spotlight, or if you're trying to capture dramatic contrast.

Centre-weighted metering is designed to add focus to the centre of your photograph. The balance of light and dark will be concentrated here, while surrounding areas may be shadier or lighter depending on the lighting conditions. Centre-weighted metering is great for face-on portraits as you can balance the lighting on the subject's face, making it into a focal point. It's also great for photographs of people on stage. Compose your shot with the subject in the centre and the stage lighting will be fairly balanced, showing up their features clearly while the rest of the shot will be darker, adding drama. It's also good for creative shots such as silhouettes against a bright backdrop.

Spot metering is best for portraits but can also be used for more creative shots. Areas of the photograph area are defined as spots to be metered. It's very accurate so it's the best for dramatic contrast.

EVALUATIVE METERING

With an even spread of blacks and whites, the camera makes easy work of this situation using evaluative metering

COLOUR CONUNDRUM

A problem photographers can face is colour. The camera's metering system, unlike our eyes, doesn't see the world in colour; it measures light in luminance. Certainly colours appear extremely vivid to the human eye. The camera sees these simply as tonal shades and interprets the result without the intensity we attribute. As we approach our subject, it can often become difficult to predict exactly how the metering will be affected at first. In the days of film photography this often presented huge problems, but with digital photography it's easier to learn just how the camera reacts to tones and shades by exploring the information in the histogram. In this respect, it is worth reading about the Zone System. This helps you identify where midtones, shadows and highlights sit relative to each other by separating the tonal values into distinct zones. Approaching the subject with the understanding of where these shades should be placed helps when setting exposure values. It's surprising how the untrained eye can misconstrue a bold colour like the reds on this mushroom as very bright. The camera sees the red as a midtone

© David Clapp

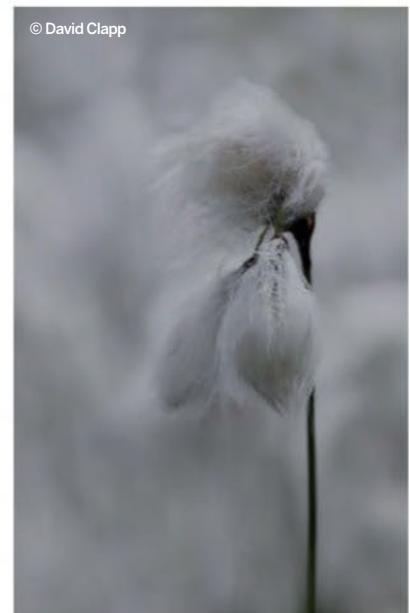




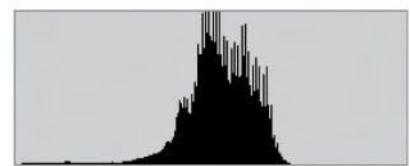
© David Clapp



© David Clapp



© David Clapp



▲ UNDEREXPOSURE ISSUES
In-camera metering will try to push reflected whites of this cotton grass towards middle grey, underexposing the shot and making it murky

◀ KEEP THE WHITES BRIGHT
The histogram bunches to the right as it recognises the amount of light tones in shot



© David Clapp

“Metering systems are very sophisticated, but still get confused with tricky conditions”

► Incidental metering doesn't suffer from this miscalculation, as it is based on a measurement of light falling onto the subject. The subject can be any tone, reflective or not, and the light reading will remain consistent. Portrait or product photographers, in particular, base their metering calculations on handheld incident metering, rather than reflected in-camera metering to get a more realistic reading. Despite this however, if the image has a wide range of reflected light and tones, in-camera metering still works well. Metering systems are very sophisticated, but still get confused with tricky conditions.

The biggest issues occur when a single luminescence fills the scene, like a blanket of snow. As the camera tries to evenly measure, it is bombarded with reflected light. It tries to position

the white in the middle of the tonal range, as it is convinced this is where the correct exposure should be. This results in a shot that is significantly underexposed. The same thing occurs when shooting excessively dark subjects; the camera will lift the blacks towards the midtone leaving you with a shot that is overexposed. With modes like Aperture Priority (Av) and Shutter Priority (Tv), in-camera metering can be difficult to get right. As the camera bases the shutter speed or the aperture on the in-camera meter reading, the image can be prone to over- or underexposure. This is where the Exposure Compensation mode comes into its own.

Let's now consider the previously discussed snow scene once again. With so much reflected light, the camera will consistently underexpose unless the

camera is set to compensate. By setting the camera to overexpose by around one and a half stops, the whites will remain bright and clean. The exact same approach in the opposite direction works with darker subjects, too.

For film photographers, both amateurs and professionals, understanding metering and gauging correct exposure is absolutely vital. Getting to understand photography in this intimate way is a true art form.

Digital photographers must also pay heed to these rules, but there is a huge safety net to fall back on – the histogram. With instant exposure feedback at the fingertips, a quick test shot can sort out any problems and let the photographer make any necessary adjustments accordingly. Get it right in-camera to avoid time editing.



Using your Nikon's flash

A hotshoe flash unit, or speedlight, is one of the most powerful pieces of photographic kit you can add to your Nikon

For a long time, the general rule of thumb for many photographers – both amateur and professional – was that, unless you were talking about heavy-duty, professional flash units, **artificial light was bad news**. Magazines and books would routinely advise their readers that the best policy was to use natural light wherever possible and avoid using a hotshoe flash.

So, what changed? The answer is twofold. Firstly, as the 20th Century became the 21st, the range of off-camera, wireless flash-triggering options available to photographers using a speedlight flash unit grew exponentially. Secondly, at around the same time, digital capture made itself available to consumers.

Wireless radio triggers allowed photographers to position hotshoe flash units off camera, knowing that they could be reliably fired in perfect synchronisation. Even if this meant setting the speedlights to full manual control, this was a quantum leap forward.

Digital capture, meanwhile, gave photographers the opportunity to immediately check their results. This is now taken for granted, but prior to the advent of CCDs and LCDs, only Polaroids offered any means of instant feedback. This meant that photographers could finally uncross their fingers while having to wait for film to come back from the lab.

Read on to discover just what a simple speedlight can do for you and your photography. ➤

▼ NEVER MISS A TRICK

"I used the repeating flash function to fire flash pulses (8 hertz) to freeze the cards over 1.3sec," explains photographer Martin Wells. "Reducing the output to 1/128 gives a flash duration of about 1/40000. A continuous light source (a table lamp) gives a sense of motion to the cards"



Works best with
Nikon SB-910
Speedlight







© Markus Reugels

► Broadly speaking, there are two general reasons for using a speedlight. Firstly, there are times when the light that's available to you isn't suitable for taking a well-exposed photo – but a single speedlight can be all that's required to get you out of a tight corner.

A good example of this is a scene with backlighting, which often presents significant exposure problems.

Avoiding overexposure of the background will typically cause the subject themselves to be underexposed – unless, of course, you happen to have a speedlight handy. A speedlight can be used to add a subtle burst of light that's just enough to allow you to achieve a good exposure for the background and the subject simultaneously.

There are also times when there simply isn't enough light at all. Photographers who specialise in capturing weddings and parties know all too well that sometimes there's a straight choice between getting a shot with a speedlight and not getting a shot at all.

The other reason to use a speedlight is the massive creative potential that they offer. Just one speedlight can be all that's required to create images that look as if they were taken with much more elaborate and complicated kit.

Many people think of portraiture first when speedlights are mentioned, but there are many other intriguing ways to put them to good use. For example, speedlights are brilliant when it comes to freezing action. Have you ever looked admiringly at images of water drops or drips of paint caught in mid-air? The chances are that those shots were taken using one or

▲ SPLIT-SECOND CAPTURE

Markus Reugels used two affordable, nonproprietary speedlights off-camera for this water-drop collision shot. **Flash info:** One Vivitar 285 at 1/32 power behind frosted glass providing backlighting, with another Vivitar 285 at 1/32 power on left side, also behind frosted glass. A reflector was added on the right side

two speedlights with the power turned right down to provide a brief flash duration to freeze the motion. The only extra bit of kit that's required for this type of photography is an infrared, or sound-sensitive, trigger to ensure that your camera and speedlights are fired in perfect sync with the decisive moment.

A very similar setup can be used to capture images of birds in flight. This is all thanks to the ability to dial the power output of a speedlight unit right down, thus facilitating incredibly fast flash durations of 1/41600sec – far quicker than even the fastest of shutter speeds.

Thankfully, the sophisticated TTL (through the lens) metering which Nikon pioneered and many cameras have followed means that your camera and speedlight will communicate with each other to produce a suitable exposure. And thanks to modern wireless flash systems, such as Nikon's Creative Lighting System, this still applies even if you choose to position your speedlight off-camera.

This often works well when using your speedlight to get you out of a tight spot. However, if you want more creative results setting your speedlight to full manual mode (M) is often the best bet. ►

Manual control

If you're looking to use your speedlight creatively then it's best to explore the possibilities offered by switching it into manual mode and placing it off-camera



▲ SWITCH TO MANUAL

Putting your speedlight into manual mode is usually just a case of pressing a button on the back of the unit. You can then select the power output for the flash – in this example it's set to 1/4 power



▲ REMOTE MODE

There's probably not a lot of point in using manual mode if you are going to photograph using your speedlight on-camera. Modern speedlights allow you to use them as remote off-camera units



▲ OFF-CAMERA FLASH CONTROL

If you're going to use your speedlight remotely in manual mode, it makes perfect sense to be able to control and adjust it from the comfort of your camera



How this shot was set up

This image was captured using one speedlight positioned off-camera. A CTO (colour temperature orange) gel was used to warm the subject against the cold effect of using the camera's Tungsten white balance setting.

■ **CAREFUL POSITIONING** Placing the speedlight to the side and playing with the camera's aperture setting has allowed a bokeh effect in the background to be achieved.

■ **DAYLIGHT INTO NIGHT** Despite their size, speedlights can be used to overpower daylight and make images appear to have been taken in very different conditions.

■ **LOCATION SHOTS** Taking heavy and expensive battery-powered flash units on location is an awkward business but speedlights are so small and portable that they can be taken pretty much anywhere!



▲ EMPOWERED PORTRAITS

A speedlight can be used to overpower fairly bright sunlight in the middle of the day, especially when a slightly shaded location is used

Flash info: Off-camera Nikon speedlight positioned to the right of the camera and fired through a softbox on 1/2 power

► However, irrespective of whether you are using your speedlight off or on camera, or you're using TTL or full manual control, the key thing that you need to learn to do is to judge the amount of light that needs to be produced by your speedlight relative to the available, ambient light.

A good starting point is to consider the ambient light in isolation and assess what use you can make of it for the photos you want to take. How close to the images that you want to take will the ambient light get you? Is the ambient light very bright or very dark? What's missing from the ambient light that a speedlight can provide?

Fill-in flash is so-called because it's used to gently 'fill in' shadow areas fairly inconspicuously. In this situation, the ratio of the light from your speedlight to the ambient light is relatively low.

If you are trying to produce a moody portrait using off-camera speedlights, this ratio may be almost exactly reversed, with the ambient light deliberately underexposed and the output of the speedlights turned up.

People often tend to think of manual mode on any electronic device, including cameras and speedlights, as being inherently more complex than the auto modes that are used by default. However, when it comes to cameras and speedlights – and especially when using them in combination – it actually helps to work in manual mode.

The key principle of using a speedlight successfully is balancing the ambient light with the artificial light from the speedlight. With this in mind, shooting with both your camera and your speedlight in manual mode can make it easier to get your head around the entire process.

In general terms, the more light you want from your speedlight, the higher you need the power output to be, so you could put your speedlight in manual and set it to 1/2 power as a starting point. If it's too bright, dial it down to 1/4 power or 1/8 power. If it's not bright enough, bring it up to full (1/1) power. Of course, that then leaves you with nowhere further to go in terms of extracting light from your speedlight, except to open up your camera's aperture.

That is fine in theory, but it can present problems if you are simultaneously trying to keep the ambient light at bay. Opening up your camera's aperture, from say f8 to f5.6 or f4, will not only increase the effect of your speedlight but also increase the ambient exposure at the same time, which might not be the effect that you are after.

This is an example of when using more than one speedlight can be an advantage, particularly as you can even use two speedlights in one portable softbox with the aid of special dual brackets. Another option that many speedlights offer is FP mode. Using this particular setting, the speedlight allows faster shutter speeds than the normal sync speed to be employed by altering its power output.

Another fantastic way to use speedlights is to freeze split-second action. For this sort of photography, it's usually necessary to virtually eliminate almost all the ambient light and use a fairly long shutter speed. Some photographers even opt to leave the shutter open using Bulb mode. A quick burst from the speedlight is what actually captures the action and creates the image, all of which is why a speedlight that can be turned right down to a very low power output is a big advantage: low power outputs are where the fastest flash durations can be unlocked.

Top speedlights

Take a look at our favourite Nikon speedlight gear

NIKON SB-910 SPEEDLIGHT

Website: www.nikon.co.uk
Price: £450/\$550



This is Nikon's current flagship professional speedlight, and is fully compatible with the Nikon Creative Lighting System. It also features a sophisticated LCD panel GUI.

NIKON WIRELESS SPEEDLIGHT COMMANDER SU-800

Website: www.nikon.co.uk **Price:** £299.99/\$337.99
Control multiple Nikon flashes with this commander unit. Compatible with the SB-910, SB-900, SB-800, SB-700, SB-600 and SB-R200 models it offers dual-light and triple-light close-up flash. You can control flash for three speedlights.

NIKON SPEEDLIGHT SB-N5

Website: www.nikon.co.uk
Price: £130/\$149

This diminutive speedlight offers bounce flash and LED lighting to quickly and easily brighten up your shots. Its small size and light weight make it a more portable option than some of the more advanced models in the Nikon range, but it isn't quite as powerful as the SB-910.



Types of flash

Check out the benefits of flash with an image taken using no flash, face-on and bounced flash light



▲ NO FLASH

In a low-light situation, without a speedlight to hand, there's no option other than to turn your ISO right up to ISO 1600 or beyond in order to get a sufficiently fast shutter speed. That's all well and good, but this results in image noise and, consequently, inferior image quality



▲ DIRECT FLASH

Using a speedlight fixes the ISO issue, but directing the flash head straight at the model doesn't produce hugely flattering light, and also makes the use of flash very obvious. Fortunately, there's often a much better option available (bounced flash) and this requires no extra time or effort



▲ BOUNCED FLASH

The vast majority of rooms have reasonably low and reasonably white ceilings, so we can take advantage of this by rotating the speedlight's head and bouncing the light off the ceiling. On occasion, you may need to add some flash exposure compensation when using this technique



How this shot has been lit

Professional photographer James Eckersley shoots famous faces on a regular basis – almost always using speedlights as his lighting of choice.

■ FLASH SETTINGS

"One speedlight with a softbox was used to light Alex Zane's face and body."

■ COLOUR FILTER

"A second speedlight, fitted with a CTB (colour temperature blue) filter was positioned behind him and pointing straight at the back wall."

■ AMBIENT LIGHT

"This light was obviously mixed with the street light above and the further ambient lights at the location."

© James Eckersley



BEFORE



Works best with
**Nikon
1 J5**

filters A guide to for landscapes

Landscape pro Lee Pengelly demonstrates how filters enable you to get the image right in-camera, banishing those washed-out skies and weak colours

As the landscape is one of the most accessible subjects, you would think this would make it easy to capture. However, unlike studio photographers who can control their own lighting, for landscape photographers it's a slightly different story. We work with natural light and in the UK this can be unpredictable at the best of times. We have to measure and cope with a changing light in all its various forms – side lighting, back lighting, sunsets, sunrises, into the light, harsh light, diffused light... the list goes on and the various techniques for capturing each perfectly first time around aren't at all simple. Add to this other elements such as

cloud cover, the seasons, the Sun's position and you start to get an idea of what we're faced with. We have to be aware of how the camera sees things and help it along to capture what we see.

Unfortunately our cameras don't work as well as our eyes. Look at any landscape and in microseconds our eyes will adjust to the light, balancing the scene. Try to capture the scene with one frame and getting this balance right in-camera is nigh on impossible. Nine times out of ten we end up with washed-out skies and poor contrast.

All is not lost though, as we can control this light with filters, getting the image in-camera to match what we see.

AFTER
**TRANSFORM
A LANDSCAPE**
Use long exposures alongside a neutral density filter to capture atmospheric landscape images like this one



Control the light

Learn to capture stunning landscapes in-camera using three essential photographic filters

Look through any holiday brochure and a good deal of images will have been taken with the addition of a filter. Some purists believe that filters are a way of cheating, adding something to an image that wasn't there. In landscape photography this is especially true and it's a subject that requires honesty to record only what you see. There are filters that add colour and effects to an image, but nowadays filtration is a more sedate affair with the majority of photographers opting to simply control the light.

We now have a massive amount of software at our fingertips to alter an image, add colour, morph multiple exposures together and even filter, but the old adage of getting it right in-camera still rings true. I still approach photography the old-fashioned way.

By this I mean using what I have available – the light, the exposure settings and the filtration to record what I see as close as I can and as faithfully as I can. A key factor to remember with filtration is, if you can see that a filter has been used, you've failed. This is where light-controlling filters come in.

There are three main types of filter in this category: the polariser, the graduated neutral density filter and the standard neutral density filter. These filter types don't add colour but instead control the light entering the camera. They affect the light, hold it back and help the camera see as we see.

Look through any photographic supplier catalogue and you are met with an array of different sizes, strengths and shapes of filter. There are also

two main types: screw-on filters and system filters that fit into a holder. The screw-on types have various filter thread sizes and these are screwed on directly to the lens and rotated, in the case of polarisers and grads. The system type of filters are usually square or oblong in shape and fit into a specialised holder that attaches to a threaded ring placed on your lens. These can be moved up and down, tilted sideways and stacked. You have to make your own decision when picking a system type, though the more expensive ones tend to be more accessible.

In this feature I have used filters from www.leefilters.com but you can also browse a filter range at www.nikon.com.

PORTLAND BILL LIGHTHOUSE, DORSET

A polarising filter transformed this scene, making the clouds stand out against the sky and removing glare from the water surface

Essential landscape filters

Polariser



Price: **From £218 (approx. \$358 US)**

Web: www.leefilters.com

The polariser comes in either linear type for manual focus, or circular type for autofocus. They are available as screw-on types, as system types, or square slot-in types. Although each affect the image in exactly the same way, the system holder screw-on types are best, as the filter will always be in front of other filters and easier to operate. The polariser works best when the Sun is at 90 degrees to your shooting position.

Neutral density grad



Price: **From £176 (set of 3, approx. \$289 US)**

Web: www.leefilters.com

The simple ND (neutral density) graduated filter is a filter that enables you to balance exposures between a bright sky and darker landscape. They come in varying strengths measured in density, for instance 0.3=1 stop, 0.6=2 stops and 0.9=3 stops. The filters are grey and graduate to clear resin, though they don't colour the image, only hold back the light. They come in hard or soft graduation and as screw-on or slot-in systems.

Neutral density



Price: **£79 (resin type, approx. \$130 US)**

Web: www.leefilters.com

Unlike the neutral density graduated filter, the ND filter is grey overall. Again, as it's neutral it doesn't colour the image, only holds back light. Various strengths are available and they come in either resin or a glass version. The glass pro filter is more balanced and a better choice for digital sensors, although major colour shifts only result in extreme exposures. This filter can extend exposure to create movement.



Filter uses

With many software filters around, physical filters still have a place

Balance exposure

A graduated grey filter balances exposure between bright skies and dark foregrounds, bridging the gap in exposure between the two.

Saturate colours

A polarising filter will cut down the glare from reflective surfaces, making colours look more saturated.

Extend exposure

You can add a neutral density filter to prevent light entering the camera and in turn increase the exposure time to enhance movement.

Remove reflections

Use a polariser to remove annoying reflections from shiny surfaces. Shoot through glass as well as through the surface of the water with this simple filter.

Creativity

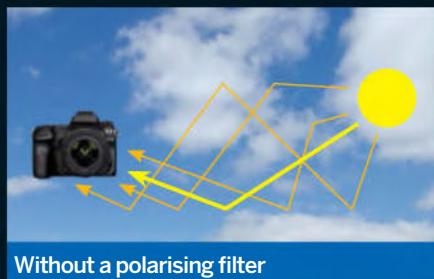
Filters enable your creative juices to flow, so try to pre-visualise how a filter will affect a scene, add movement or add impact to dramatic conditions.

How does a polariser work?

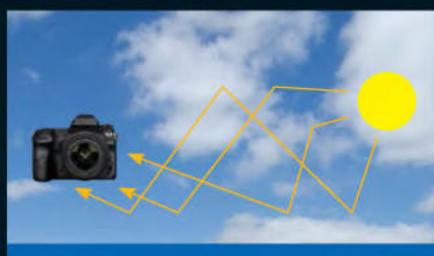
Explore the science behind the simple polarising filter

Light from the Sun travels in a straight line as a wave that is oscillating up and down and side to side. When light is reflected off a subject, it's the reflected wavelength of the light that determines the colour of the subject – the subject absorbs other colours. A blue subject, for example, reflects only blue light and absorbs other colours such as reds, oranges and greens.

If the light that's being reflected travels in only one direction, it will cause glare and reduce the colour of the reflected surface. A polarising filter removes this polarised light by filtering the sunlight that's reflecting towards the camera lens from specific angles, enabling you to restore colour intensity in your captures. The polarising filter has a layer of Polaroid between two plates of glass to do this. In a circular polarising filter, the front plate is rotated. This directly affects the angle of polarisation, as well as the amount of polarised light entering the filter, enabling precise control over the degree of polarised light that is to be removed.



Without a polarising filter



With a polarising filter

A polarising filter works best when you're shooting perpendicular (90 degrees) to the Sun

Enhance colour using a polariser

Discover how a polarising filter can reduce glare, boost colour saturation and refine reflections

Despite the myriad of different filters and effects available in software, there is still nothing as yet to match what the simple polarising filter can do. This is because the filter physically affects the light entering the camera. Yes, there are software effects that can replicate the filter's effects and there are the Saturation and Vibrance sliders, but a polariser is the one filter that every photographer should have.

There are three types of polariser available. The first is simply a sheet of polarising gel, which can be cut by hand and held in front of the lens or mounted in a handmade gel holder. You can also buy these from manufacturers, however they aren't very durable and can cause flare problems. There is also the most common type, consisting of a polarising material between two pieces of optical glass. This is



“A polariser is the one filter that every photographer should have to hand”

usually circular and either screw onto the front of your lens or to an adapted holder. The effect can be seen by rotating the filter while viewing the image through the viewfinder or Live View. You can also hold it up to your eye and rotate first, then carefully place the filter back onto the lens. Some polarisers are even marked up to help with positioning.

One important thing to bear in mind when using polarisers is that they prevent around 1.5 to 2 stops of light entering the lens, so if using manual exposure you will have to compensate for this. The polariser has a maximum effect when the Sun's position is at 90 degrees to your shooting position. Be careful not to over-polarise though, as this

happens when using lenses wider than 28mm, causing a darker mass in the sky of the image. When stacked with other filters, you will sometimes notice vignetting in the corners of the image. Look for a slim-type circular polariser to help prevent this.

Polarisers can be used as ND filters. Unpolarised, they will hold back the light but beware that some can cause slight colour casts, which can be fixed at the processing stage, or by increasing colour temperature via White Balance settings.

▼ WEMBURY BAY, DEVON

A polariser has been used on this shot of a rough sea. The waves have been softened a great deal, making them much easier on the eye



REDUCE REFLECTIONS WITH POLARISERS

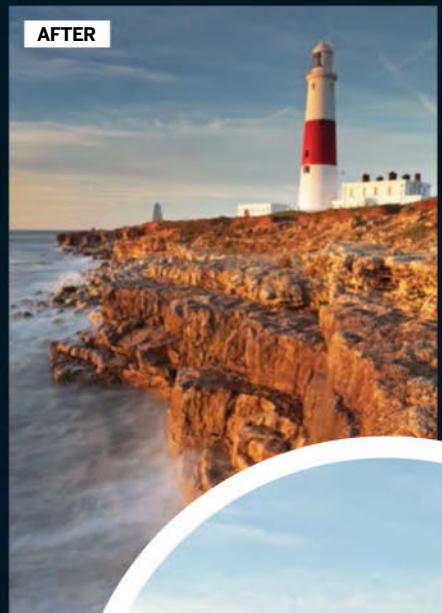
Polarisers reduce or even remove reflections. They block the unwanted rays of light from non-metallic surfaces. As you rotate the filter, reflections on water and wet rocks will disappear, so much so that it makes the water transparent

AFTER

Boosting saturation

How to increase the saturation in a shot by using a polariser

Open a travel brochure and you will see deep-blue skies, flowers and foliage jumping off the pages. This is usually the result of the photographer using a polariser. One of the main uses for polarisers is to boost colour saturation. This isn't the same as the software equivalent of moving a slider; it just increases colours that are already there. A polariser works by removing glare and reflections from surfaces, in turn making the subject appear more colourful. In essence the contrast is improved and not weakened by the harsher light. So, where would you use this to maximise a scene? Take a woodland scene, for example. Even on a dull overcast day a polariser can work wonders by boosting the colours in foliage, which is great for autumnal scenes. White puffy clouds will stand out against a deep-blue sky, as the polariser is rotated and for close-up nature work flowers can benefit from the boost in contrast and colour. One thing to be aware of is over-saturating with the filter, which is noticeable in skies where the Sun is off to one side of the frame and the other half of the image is darker than the brighter side. An angled soft graduated filter can help to balance things up in this situation.



BEFORE





Use the Big Stopper filter

Take long exposures to the extreme using a 10x Big Stopper filter for atmospheric effects

In recent years a number of companies have produced 10x ND filters and the Big Stopper is Lee Filters' version. This glass filter resembles a piece of welding glass, totally opaque. It takes exposure times to the extreme, turning 1sec exposures into mind-boggling 30-minute ones. The filter was designed to use during the day, creating the same motion effects as you would get at dawn and dusk. Using the filter takes some practise, as a meter reading has to be taken, focusing done, settings put into the camera, then the filter is placed and exposure taken. This can produce a blue colour cast, but it's easily corrected either at the process stage or by increasing the White Balance kelvin setting in-camera to around 8500K. Light leaking can also be a big problem, so make sure your viewfinder is covered during exposures.

Shoot long exposure with ND filters

Capture movement and atmospheric scenes using ND filters and longer exposure times

Let's not forget that photography is a creative process – not does it produce a true representation of a subject, but it's also used to capture what we have in our minds, whatever the subject. With current software it's all too easy to create montages and all kinds of creative imagery, but in-camera it requires a practical knowledge and forethought. The landscape in particular is restrictive in terms of what you can add to it, unlike studio photography where lighting and effects can be created. With the landscape you get what you're given, but with filtration you can bend the visual rules.

One filter that can do this is the ND (neutral density) filter – a piece of grey resin or glass that holds back light from entering the lens. Although grey in colour it's similar to the ND grad, as it doesn't colour the light, but only reduces it. These filters come in either screw-on fit or as a square system type filter. They are also measured in density and available in varying strengths from 0.3 to 1 stop, right up to 10 stops. Most are made from resin, however professional glass ND filters are also available; these are less prone to colour casts during long exposures. The filters are typically stacked together with either grads or a polariser, but can be used alone depending on the subject.

Primarily the ND filter is used to reduce the amount of light entering the lens. This is usually done to extend exposure times, creating movement in an image – blurred waterfalls, traffic trails and making people disappear. For example, let's say you are shooting a scene within the landscape at a wide aperture of f5.6. You don't want to deviate from the aperture, but can't get the shutter speed slow enough to create blur – the ND filter is the cure. It can also be used to improve contrast in a scene taken on a bright day where overhead light is harsh.



► MAN O WAR BAY, DORSET

Although the scene's composition was nice, the rippled water out in the bay was a bit messy. By adding a 3-stop 0.9 ND filter I was able to achieve a longer exposure



Guide to smooth water

How to extend exposures with an ND filter for smooth water motion shots

One of the most common subjects to use an ND filter on is water, as where there is water there's scope to create something a little different. Of course, photography is subjective and nowhere is this more apparent than in scenes with blurred water, with some preferring to freeze the motion.

Used in combination with a polariser the two filters will extend exposure times into seconds while removing glare and boosting contrast and colour saturation at the same time. The general rule for water is using

1sec to 4sec to create a blur of water, while still giving it definition. From 4sec up to 30sec the water tends to lose any definition, taking on a cotton wool appearance. Into the minutes and water will take on a misty, atmospheric quality. The camera will meter through the filter up to 30sec, but beyond that you will have to double up exposure times for each stop over and use Bulb mode.

This technique usually requires fairly small apertures. Plus, when combined with the filters, exposure times are long, so a tripod is a must.

“With the landscape you get what you’re given, but with filtration you can bend the visual rules”



AFTER



Guide to using grad filters

Practical guide to setting up and using a graduated ND filter

Take a meter reading

To ensure you use the right exposure settings and filter strength for the scene, take a meter reading of just the midtone areas and then another of the sky. Work out the stop difference based on the results of each.

Select a grad strength

You can now determine which filter strength is best for the landscape. A two-stop difference, for example, would only require a 0.6ND grad. Too dark and the balance would be wrong, resulting in an unnaturally dark sky.

Position the filter

Select a hard or soft grad line depending on the horizon in the scene. Once you've positioned your camera on a tripod, you can switch to Live View mode and position the grad line accordingly.

Check the histogram

Once the filter is in place you'll be able to better expose the midtones and reduce the glare from the highlights. Always check your histogram on the LCD while shooting to tweak the various exposure settings if necessary.



Preserve skies with graduated filters

Discover how you can easily protect precious detail in the sky using a graduated ND filter

How many times have you taken a quick snapshot of a beautiful landscape scene, only to find you are left with a bleached-out scene with no detail or colour? Unlike our eyes, which can instantly adjust to around 24 stops in light difference, the camera cannot record anywhere near this amount of variation in one frame. This is where the simple graduated grey filter comes into play.

It bridges the gap in exposure difference between a bright and dark subject, balancing exposure. Graduated filters come in two types: circular screw-on filters and resin oblong filters that slide into a filter holder attached to the lens. Although screw-on grads are in principle the same as the system type, they are more restrictive – to move the graduation line means moving the camera, as opposed to just sliding a system filter up and down.

Grads are available in varying strengths, most commonly 0.3 to 1 stop, 0.6 to 2 stops and 0.9 to 3

“You have a choice of graduation types: hard graduated and soft graduated”

stops, measured in density, the darker grey part of the filter holds back the corresponding amount of light. Although grey in colour they are neutral so don't affect the colour of the image, however be careful with cheaper versions, as these aren't neutral and produce strange magenta colour casts. You also have a choice of varying gradation types: hard graduated and soft graduated. Which to use depends entirely on the subject you are shooting. A hard-edged grad would be ideally suited for coastal scenes, with a well-defined horizon, whereas a horizon broken by trees or buildings would require a less harshly graduated line, so a soft grad would be a better choice here.

The technique for choosing and using grads requires two meter readings to be taken: one for the sky and one for the land, both taken from midtone areas. Say for instance the land reading comes in at 1sec at f16 and the sky reads 1/8sec at f16. That's a three-stop difference between the two, so a 0.9 graduated filter will bridge that exposure gap, resulting in a 1sec exposure for the entire frame.

Grads can also be stacked together if a bigger exposure gap is measured and they can also be inverted. This is useful, for example, for a bright oilseed field and blue sky, where the field is brighter than the sky.

▼ KIMMERIDGE BAY, DORSET

Although the scene was side lit the sky was around 2 stops brighter than the foreground. I placed a 0.6 hard edged grad over the sky bringing the gradation line down to the sea level



© Lee Pengelly



AFTER

How to capture cloud motion

Discover how to capture movement in the sky using a grad

Grad filters can be used with other filters to create dramatic images of the landscape. Having a starting image in your head helps, as well as knowing how each filter used will affect the exposure, the elements, the colour. When shooting longer exposures we are going to end up with a result that the eye can't replicate.

Cloud motion is hard to capture, as it involves getting the right conditions and techniques. First the wind needs to be fairly strong, ideally blowing towards or away from you. Either way this means getting the tripod splayed as low as you can, weighing everything down to prevent it shaking and toppling. Grad filters can balance exposure between the land and sky, but also by stacking two grads together they will act in the same way as ND filters, extending exposure. Add to this a polariser and your exposure times will run into many seconds.

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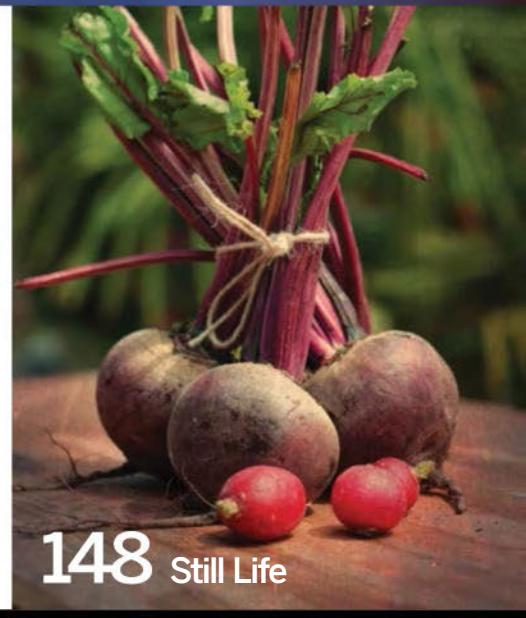
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Capture portraits with Personality

Get creative with your portrait photoshoots and produce people images that tell a story

It's often said that beauty is only skin deep and that it's what's on the inside that truly matters. If you know what you are doing with lighting and you have a physically attractive subject to photograph, then there's a good chance that you will be able to produce a technically successful portrait – but what about capturing an image that says something about the essence of the person themselves and who they really are? This places more demand on both your photographic

proficiency and your people skills – it's easier said than done. There are ways of working that make your chances of capturing a sense of someone's personality much more likely.

Over the next few pages, you'll discover how to capture striking portraits with personality, guiding you through every stage of the process from the planning and consultation with your model right through to the editing techniques that add the perfecting final touches.

► PORTRAITS THAT POP

Work with your model to create relaxed images. Portraits have impact and are more memorable when they capture the subject's personality and character





Work with models

Interact with your models to capture their character

Producing portraits with plenty of personality is not going to be easy to do if you do not invest any time or effort in getting to know the subject that you are working with. This is why it's generally very important for a portrait photographer to be a people person; you have to enjoy spending time getting to know the models that you are going to be photographing, as doing so will almost always be to your advantage. At a very basic level, this will help you on every single session you undertake, enabling you to modify a portrait shoot to better suit the attitudes and preferences of your subject, but when it comes to trying to put their true personality into the resulting images, it's simply vital.

Experienced portrait photographers may be able to begin building a reasonably reliable picture of someone's character from the very first time they meet them, even if that's via a phone

conversation or email, and they may not need to consciously think about it. However, for many people, it's helpful to take a more deliberate, methodical approach, perhaps by noting down specific observations and taking the time to have a relaxed discussion with the model about themselves. The benefit of this approach is that it avoids the risk of you, the photographer, making assumptions about someone that are either incorrect or do not match their own view of themselves. Ultimately, your model will not appreciate a portrait that they do not personally believe reflects who they are. If you are considering using specific locations, props or clothing, it's very important that this is done in collaboration with your subject, or you are very possibly setting yourself up for a situation in which the model is disappointed with the end result or doesn't engage with you during the session because their heart isn't in it.

BREAK THE ICE FIRST

Ensure you have a relaxed and informal chat with your model before the shoot – this will remove any awkwardness that's inevitable when meeting someone for the first time. If your model feels comfortable they will enjoy the shoot.

► PLANNING MAKES PERFECT

Take some time to jot down some creative ideas – props and clothing can be used to visually express the model's personality



Add a sense of intrigue to portraits



© TJ Drysdale
Pro photographer TJ Drysdale reveals his secrets to taking captivating portraiture filled with mystery

How important is communication with your models for getting good results?

It's very important! I always try my best to make it a fun and stress-free atmosphere. I'm always encouraging the model to make them feel like they're doing their absolute best.

What do you consider to be the most important part of a shoot?

Lighting is the most important element for me. I prefer natural light for my work, because it can create a mood all on its own. If I'm lucky enough to have an assistant with me on a shoot, I'll usually have them hold a reflector to bounce light back on to the model.

What are your top five tips for capturing great portraits?

My top five tips would be:

- **Communicate with the model.** Make them feel comfortable – it'll show in the final images.
- **Pay attention to the lighting**, whether it's flash or natural. It's the most important aspect.
- **Always have an idea or theme** when you go to a shoot, but don't feel obligated to stick to the script. Trust your creative instinct.
- **Do your location justice.** It's often just as important as the subject.
- **Have fun.** No one wants to work with a grouch. Keep the mood light, and just enjoy the creative process.



Trick photography

TJ often dabbles in some photo trickery to add a sense of magic and mysticism to his portrait images



USE PROPS

The model at the centre of this shot is an avid skydiver, so we used this in our imagery to convey her character

CREATIVE BLUR

Second-curtain sync with a long exposure will blur any movement and then freeze it with the flash

Use motion blur for a creative take

Add a sense of motion to the still

The concept of adding motion to a still image is a fairly strange one, but an important point when you want to add a sense of life and personality to a portrait.

By adding blur to an image, it gives the viewer the perception of movement. While this may sound difficult,

it's actually very easy to perform and can be an incredibly inventive tool for adding some personality to the image – particularly portraits. In this shot, blur has been added to create an effect that's reminiscent to a double-exposure image.



1 SECOND CURTAIN SYNC With a flashgun attached, or with the pop-up flash activated, go to the camera's flash settings and activate second-curtain sync.



2 MANUAL MODE In manual mode (M), set a shutter speed of around 0.8sec, the ISO to the lowest value and the aperture to a mid-range of f5.6.



3 TAKE THE SHOT Point a continuous light source at the side of your model. As you hit the shutter, ask the model to move their head quickly to the side.

Wide-angle portraits

Bend the rules of portrait photography by shooting with a super-wide-angle lens

Any avid portrait photographer will tell you that one of the first rules of portraiture is to ensure that you use a mid to long-range telephoto lens. Especially when capturing close-up headshots, a 85mm lens or longer is usual choice. The reason behind this is simple: a telephoto lens allows the photographer to capture a narrower and greatly magnified field of view, which means that it generates much less distortion. With less distortion you'll be able to capture a more accurate portrait, with the facial features appearing true to life.

That said, wide-angle lenses still have a part to play in portraiture. Traditionally, they are reserved for full-body shots where the photographer wishes to capture the model in their entirety, as well as being able to cram large amounts of the surroundings into the shot. These types of shot are also taken from a distance as this causes the distortion at the edge of the lens to be subdued.

Just because a telephoto lens is widely considered the standard for most portrait photographers, this doesn't mean that using a wide-angle is wrong. In fact, opting for a wide-angle can be the perfect way to inject character into your portraits. For example, using a wide-angle lens for tightly cropped headshots gives an effect with impact. The edge distortion of the wide-angle lens exaggerates facial features and the edges of the frame stretch out.

The angle at which the photo is taken will also affect the image. Taking the shot from a high angle, pointing down onto the subject will make them appear smaller, and create a dominating effect where the photographer is towering over the subject. Alternatively, shooting from a low angle and looking up at the model makes them appear much taller than they normally would.



MIX UP YOUR ANGLES

For any photographer it's almost instinctive when taking a photo to ensure that the frame is kept as level as possible. However, tilting the lens to one side can be used as a creative tool to add a touch of quirkiness to an image.

▲ TRADITIONAL PORTAIT

An 85mm lens is widely regarded as a standard portrait lens because it produces much less distortion than a wide-angle lens would



► FISHEYE PERSPECTIVE

The extreme wide-angle perspective that a fisheye lens affords creates a distorted view on reality, which is fantastic for portraits with a quirky feel

◀ ▶ LOOK DOWN FOR DOMINANCE

Peering down onto your subject with a wide-angle lens makes your subject appear smaller and more vulnerable

◀ ▶ CLOSE AND PERSONAL

Using a wide-angle lens for portraits will often distort facial features for an almost comedic effect

▼ DISTORTED FEATURES

Asking your model to point their legs or arms towards the lens will make their limbs appear larger

▼ LOOK UP TO YOUR MODEL

Pointing the lens up at your model will make them appear taller, powerful and dominant





© Adrian Dewey



© Tom Calton

Fun family photos

Learn the secrets to capturing impressive portraits of children

Some photographers shy away from working with children, often because it's not possible to instruct and direct a child to pose, stand or behave in a certain way, as they can with adults. Despite this widely held view, it can actually be far easier to capture portraits with personality when you are working with younger models, because they usually have fewer inhibitions and are much more likely to be truly spontaneous.

The trick to having a successful portrait session involving children is to make as much of the process feel like play as possible. Studios that specialise in this kind of photography normally ensure that they have a good range of toys and other props on hand that children can interact with and explore.

As the photographer, you have to be ready to play along with whatever your young subject seems to be responding to most, whether that's funny faces, hide and seek or making a mess with paint or food. Once a child sees that you are giving them permission to have fun and express themselves, they will do it all the more.

It's important to think carefully about the location too. Having plenty of space for the child to move around without much restriction will play a key role in keeping them entertained. Location can also play a part in making the image stand out, as in the image above. One of the best lighting techniques that you can use is a bright, high-key lighting setup. Not only is this type of lighting bright and vibrant, it also has practical advantages for subjects that are on the move. Create a large blanket of soft light using two or more large softboxes, as this will prevent any unflattering shadows. Finally, don't forget to dedicate one or two flash heads to illuminate the white backdrop.

► GET CREATIVE ON LOCATION

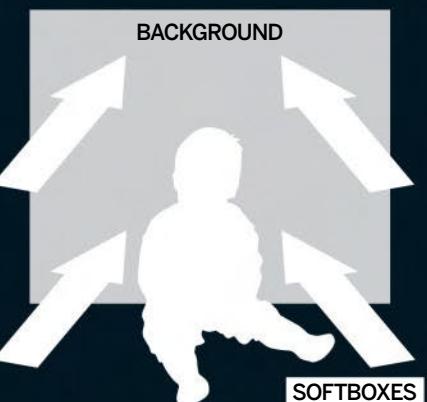
Use a location, props and interesting clothing when shooting with small children to reflect their personality and add a sense of fun

► CLEAN BACKDROP

Shooting a portrait against a plain-white background automatically makes the image all about the subject

Keep it simple

Stay in control of your shoot by using a plain background



Bright white light

A bright, high-key lighting style enables children to move around the studio space without unlit, shadow areas preventing the photographer from continuing to capture a wide range of expressions and poses

Age and authority

Capture those who have lived a lifetime for memorable and emotive portraiture

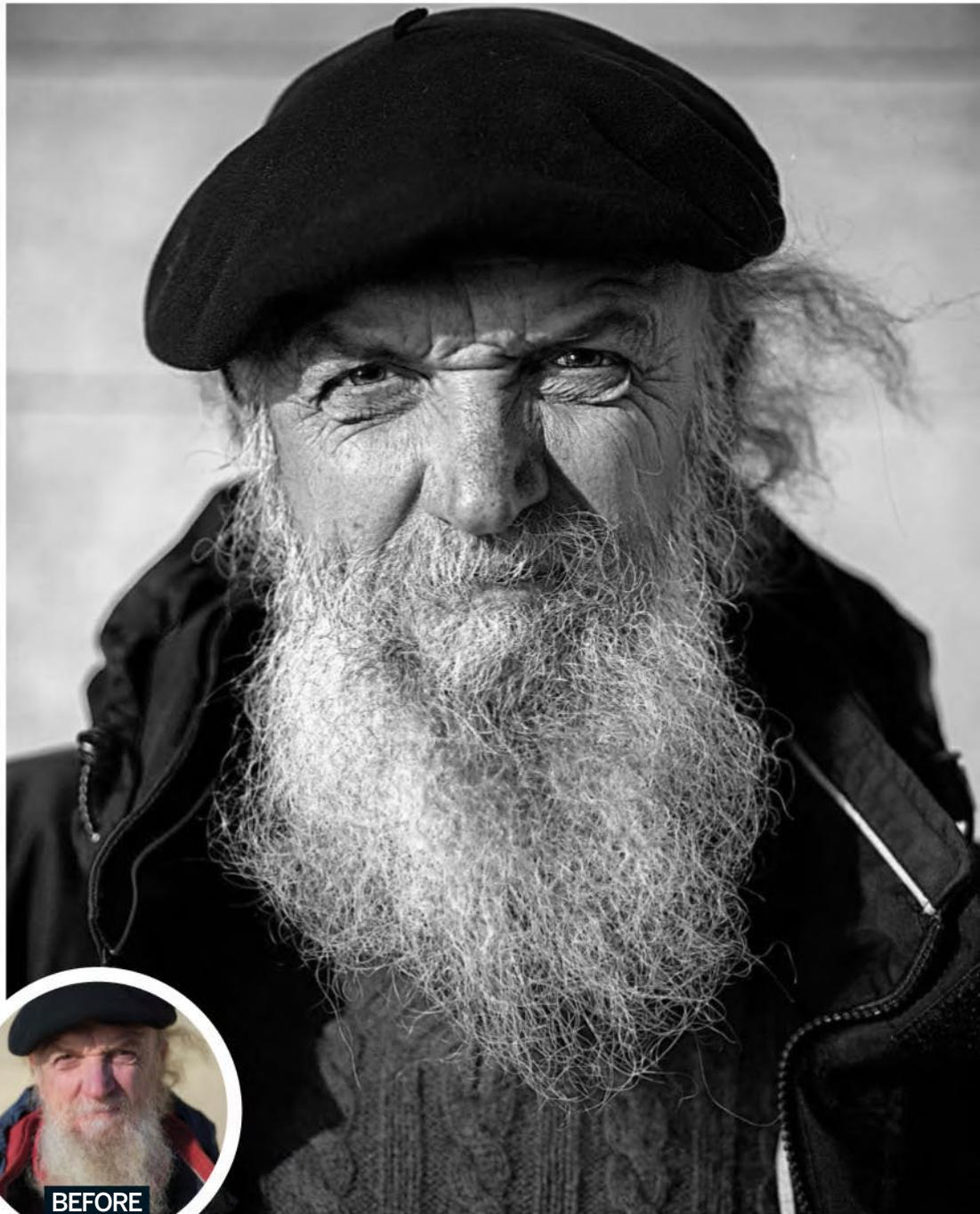
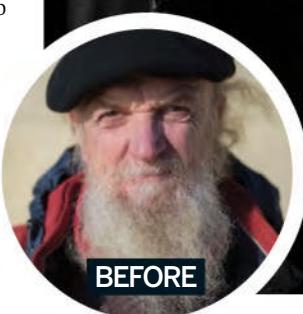
Older individuals can make fantastic subjects for portraiture. Their skin, silvered hair and expressive faces provide aesthetical intrigue, which helps the viewer to paint a picture as to how the individual has lived their life. As the photographer, it's up to you to portray this through the still images you create.

Just like any portrait, it's important to spend some time talking with your subject before you start taking pictures. Learn a little about the individual – their likes and dislikes, and the kind of life they've led. This is not only to allow your subject to relax and feel at ease, but it'll give you a deeper insight into what they are like as a person.

It's important to remember that, unlike younger individuals who are often still on the path to finding out who they are in life, older subjects are seasoned veterans who have formed their own unique set of quirks and habits that define who they are. Picking up on these traits and translating them visually into your photographs will give you the very best chance of capturing a truly memorable portrait.

As always, lighting plays a key role. Using soft light will create delicate images, while using bright, hard lighting is a great way to extenuate skin texture. However, hard light can be quite harsh, so it's important to choose wisely depending on the subject's personality.

“Learn a little about their likes and dislikes”



Add drama to mono shots Transform colour images into high-contrast black-and-white portraits



1 CONVERT TO MONO With your portrait open in Photoshop click the Create New Fill or Adjustment Layer icon at the bottom of the Layers palette and choose Black & White.



2 ADJUST TONES In the Properties window, adjust the colour sliders, setting Reds to -20, Yellows to -75, Greens to 60, Cyans to -60, Blues to -75 and Magentas to -75.



3 BOOST CONTRAST Click the Create New Fill or Adjustment Layer icon and choose Levels. Move the White Point slider to the left and the Black Point slider to the right.

Give your people shots attitude



© Alessio Albi

Italian portrait photographer, Alessio Albi, explains his tips for capturing better quirky portraits

What inspires your portraiture?

I love natural light, in particular the low light that's found just after sunset or before sunrise. I also love to play with sunlight, making it filtrate through different objects, like leaves and branches, to create various shapes across my subjects. I experiment a lot with colours, spending hours applying different colour effects in post-production to get the tones just right.

What equipment do you use and why?

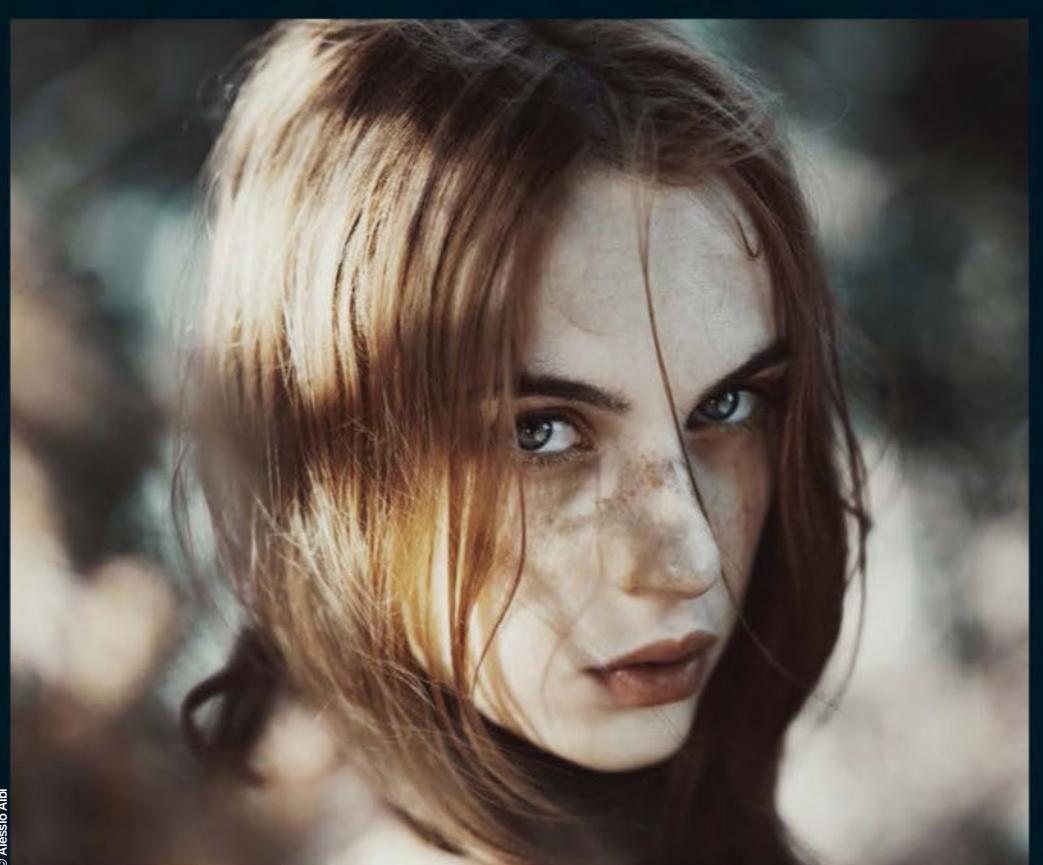
I use a Nikon D600 with two prime lenses – the Nikon 85mm f1.8 and the Sigma 35mm f1.4. I use the 85mm for close-up portraits and the other for wider shots.

What do you look for in a model before arranging a shoot with them?

They have to be interesting subjects. I do not exclusively search for professional models; in fact, I'd rather work with people that I've never photographed before, just to keep things interesting.

What is your secret to adding mystery and attitude to your portraits?

I like to experiment with underexposed tones and colours to achieve various moods within my images. Also, finding a model that is really expressive with their face and body helps me a lot.



© Alessio Albi



© Alessio Albi



© Alessio Albi



4 BRIGHTEN UP EYES Click on the Background layer in the Layers palette, then pick the Dodge tool. Set the Exposure to 10%, then brush over the eyes to brighten.

5 SHARPEN Go up to Filter>Sharpen>Unsharp Mask. In the window that appears, set the Amount to 50, the Radius to 80, and the Threshold to 0. Click OK to confirm.

►► FOCUS ON THE EYES

Ensure that the model's eyes are pin sharp to draw the viewer to them for a deeper impact

►► USE LIGHT CREATIVELY

Accentuating certain areas of a portrait by using light adds a unique look

►► CONTRAST FOR INTRIGUE

The contrast of a dark setting and a bright figure builds a sense of mystery

Vistas with impact

Follow this guide and discover how to capture beautiful landscapes in any location

When it comes to shooting the perfect landscape, often it isn't just a case of pointing your lens and capturing the scene before you, even when visiting the most beautiful places. No matter where, each location has its own set of challenges to overcome, whether that's reflections on a lake, high-contrast forest scenes, or simply a vast, empty plain.

Incredible landscape images can be taken almost anywhere, but it's all about understanding the tricks and techniques behind the shots. Over the next few pages you'll discover tips for the perfect landscape shoot, including how to protect your kit, dealing with difficult shooting environments and how to make the most of the beautiful landscapes that the great outdoors has to offer.

TWELVE APOSTLES, AUSTRALIA

Photographer Joshua Zhang (www.500px.com/shihuazhang) took this stunning shot at sunset. There were a large number of tourists and the shot kept being interrupted, but Zhang's patience finally paid off and he took this 112-second exposure

© Joshua Zhang

© Paul Newcombe



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Advanced techniques

LOOK FOR INTEREST

The wave movement over the rocks create an interesting foreground element to this image

© Joshua Zhang

CAPTURE MOOD

Always be on the lookout for changes in weather, colour and mood for the best effect

Shoot seascapes

Use creative exposures when shooting the coastline and add mood to your images

The coast is an alluring subject for the landscape photographer, and stunning results can be achieved in all weather conditions. When the light is dull and overcast, try long exposures to capture blurred wave motion. Conversely, provided there's enough natural light, capture the drama of the sea at shutter speeds of 1/500sec or faster to freeze crashing wave movement. Simple, uncluttered images work well for expansive seascapes, but look for a main focal point in your images, framing shots with minimalist objects, such as isolated rocks, sea defences and cliffs.

Prepare for your shoot beforehand by checking the tide tables and taking the right kit with you. It's vital to use a tripod for coastal long exposures, and those with an in-built spirit level will help you to keep your horizons level. A wide-angle lens is ideal for the majority of seascapes, although a mid telephoto will make the most out of cliff top vantage points. Always protect your equipment from salt water and sand, which can be damaging to the lens. Use a UV filter, and shield the camera body from wave spray with a plastic bag or more specialised housing if you have it.

Emphasise wave movement

Use a neutral density filter to record long exposures



1 SET UP THE SHOT Set your camera to the lowest ISO and desired f-stop, then attach it to a tripod. Use manual focus and zoom your lens to the required focal length.



2 CALCULATE EXPOSURE Take a test shot using a cable release without a filter, then calculate the exposure time. Double the shutter speed for every stop of filtration you're adding.



▲ MORNING GLOW In this shot Joshua Zhang (www.500px.com/ShihuaZhang), has made use of the stunning golden light of sunrise

▼ TREVOSE HEAD Paul Newcombe used a ten-stop ND filter to achieve a two-minute exposure, smoothing the sky and adding cloud movement



3 ATTACH FILTER Attach the ND filter to the front of the lens. Set the camera to Bulb mode, and fire the shutter, timing the exposure then closing it after the elapsed time.



DID YOU KNOW?

The best times to shoot are early morning or evening, to avoid bright reflections.

Perfect rivers and lakes

Capture the charm of moving and still water

If there's a river or stream flowing through the landscape you're trying to shoot, think about how best to convey its character. A wide, slow river will look and feel different to a fast-moving mountain stream. Use smaller rivers as lead-in lines to draw the eye into the image, or wade into a large stream and crouch down to near water level for a more interesting perspective.

Consider the effect of reflections when you're photographing water, particularly when there's a lake in the shot. Some reflections, such as the colours of autumn leaves or mountains, will enhance your image, but others may be distraction, and in these instances, use a polarising filter. As well as increasing the saturation of your scene, a polariser can cut through the reflections in water and enable you to see the riverbeds beneath the glittering surface.

As far as gear goes, a wide-angle lens will enable you to include the valley as a river twists through it, while a telephoto is useful for bringing the curves of the water closer to you. Dress appropriately for shooting in this location, wearing waders if you have them. This enables you to get in the water for interesting perspectives, while avoiding getting wet.

“A wide-angle lens will let you include the valley as a river twists through it”

Shoot waterfalls

Control exposure to enhance the look of moving water

When you arrive at a waterfall, don't set up straight away. Walk around the feature and look through the viewfinder to explore different angles and camera positions, and include foreground elements, such as rocks, to frame the subject. Waterfalls are all about movement, so consider which exposure best captures its drama. When shooting big waterfalls, exposures between 1/4sec to a full second show the water's motion, but still retain detail in the movement. More delicate waterfalls benefit from even longer exposures, made achievable by setting the lowest ISO possible and adding filters. Try to plan your shoots around the lighting; balanced light is ideal for waterfalls, bringing out shadow details and amplifying the contrast. When it's overcast you will be able to shoot longer speeds for a smooth effect.

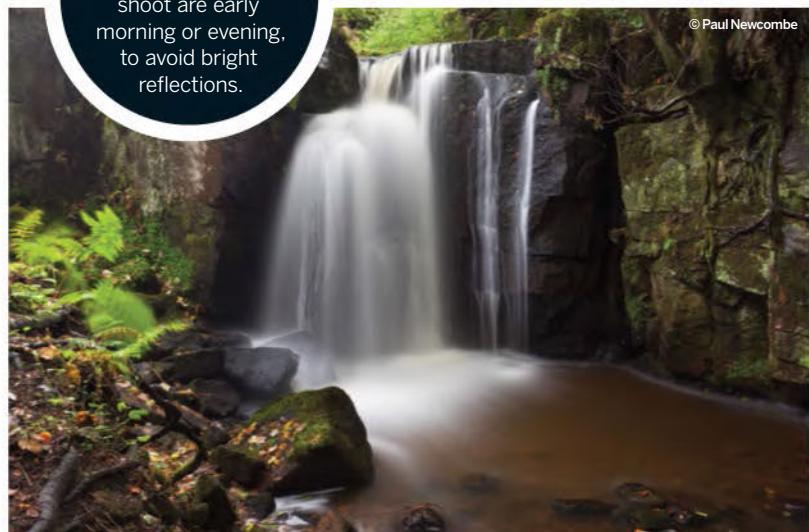
© Paul Newcombe

▲ CAPO PECORA, SARDINIA

The photographer has taken this shot at a low angle for a more interesting perspective, including rocks in the foreground to draw the eye into the frame

◀ LUMSDALE FALLS, PEAK DISTRICT

In early autumn, Paul Newcombe (www.paulnewcombephotography.co.uk) used a circular polariser to minimise water reflections and slow down the exposure time





Simplify woodland

Avoid clutter when shooting forest scenes

Woodlands are a rewarding location to photograph, so don't limit yourself to the colourful hues of the autumn season. By nature they're generally quite chaotic, and one of the downfalls of forest photography is that it can look cluttered or lack focus. Use a telephoto lens such as a 70-200mm to avoid this problem, as it'll compress the perspective and isolate small sections of trees.

You'll need to adapt to many different types of natural light when shooting woodland. Early-morning or late-afternoon is generally the best time, as the low-angled light will illuminate trunks and produce dramatic shadows. Strong light is great for open areas, and makes for bold images. To avoid lens flare, frame the Sun behind a tree.

Woodland scenes can be dense, and it's important to include a point of interest to draw the viewer's eye. Use woodland paths as lead-in lines and try different shooting angles to create interest. Include features, such as an angled trunk or bright foliage, to provide a focal point in your images.

“A downfall of forest photography is that it can often look cluttered”

Expose for woodland

Bracket exposures to capture the full range of forests

Exposing correctly for woodland can be a challenge, as dense tree canopies produce high-contrast scenes in strong sunlight. High dynamic range (HDR) photography can be used to overcome this problem, by taking multiple shots of the scene at different exposures and then combining the best parts from each into one image. Select the Auto Exposure Bracketing option from the camera's menu and move the

markers a few stops apart. Use Aperture Priority mode, choosing your desired aperture, then compose the shot as normal. The shots can then be combined into one final image using Photoshop or dedicated software such as Photomatix.



© Paul Newcombe

▲ WOODLAND SUNRISE

Taken on an early December morning, photographer Ceri Jones caught this light display

DID YOU KNOW?

Backlighting can work well when shooting forests, particularly when conditions are slightly foggy.

▲ POSITION THE SUN

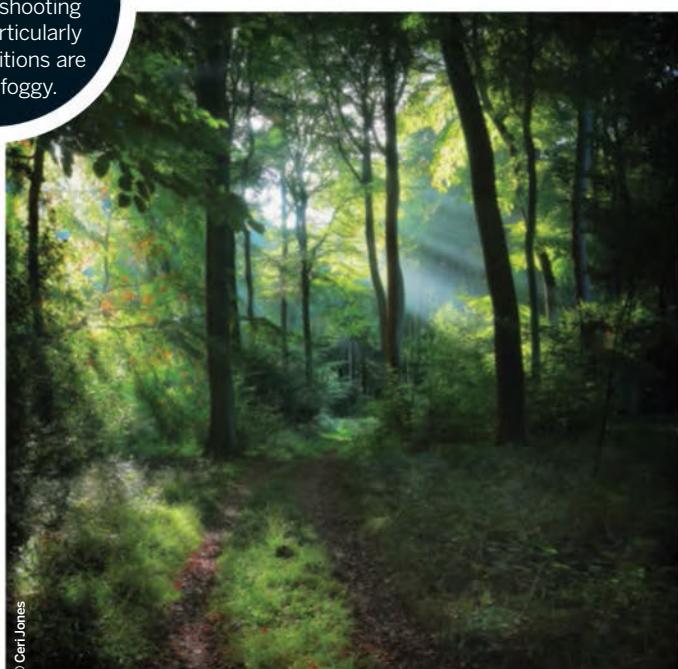
Early-morning rays break through the lingering mist, and the Sun has been placed behind a tree to avoid lens flare

► CONTROL EXPOSURE

This image was stopped down from the camera's defined exposure to ensure minimal clipping of the beautiful highlights

◀ BRACKET EXPOSURES

Exposure bracketing takes three shots several stops apart to capture the full range of highlight and shadow detail



© Ceri Jones



© Derrald Farnsworth-Livingston



© Derrald Farnsworth-Livingston

▲ DARKENED DUNES

By photographing in the golden hours, you'll record a very different tone to the sand dunes that is less commonly seen in this type of location

◀ CAMPING ON THE DUNES

Photographer Derrald Farnsworth-Livingston (www.journeyoflight.com) has included the tent as a secondary subject to give the landscape a sense of scale

Capture deserts

Convey the beauty of this harsh environment while keeping your kit protected

Deserts are prime locations to focus on shadow, texture and form in your images. The desert wind creates lines in the sand, and any shadow behind them leads to high-contrast results. Look down, instead of trying to capture the whole scene, by crouching and focusing on the detail in the sand. Start to see light before you look for anything else.

Throughout the day in a desert, the colour of the sand will change in accordance with the angle of the Sun, so plan your shoot time depending on what end result you want. This location is no exception to the magic of the golden hours, and the red late-

afternoon light will accentuate the colour of the sand, creating much more depth to the landscape than would be present in overhead sunlight. Use a long lens if you do have to shoot in the middle of the day, as this will compress the appearance of heat waves, and convey the extreme temperatures of the environment around you.

While it's always important to have a UV filter on lenses to protect the glass, in the desert this is imperative. Avoid changing lenses outdoors if possible, as even gentle winds can blow up the sand into your equipment.

Protect your kit

Follow these simple measures and continue to shoot when the weather gets dramatic

Photographing vistas leaves you open to the elements, and nothing is more damaging to your electronic kit than water and sand. Most camera rucksacks come with waterproof covers, so use these in moist, damp conditions when walking to a location. Always keep any spare kit zipped away when not in use, with lenses in pouches, and filters in their holders. Consider investing in a waterproof cover for your camera/lens setup, which will keep out water, as well as dust and dirt. In an emergency or a tight budget, you can use a piece of plastic or a carrier bag as makeshift protection, but if you're planning on heading out into particularly harsh conditions it's best to invest in something more substantial. Attach UV filters as a cost-effective way to protect your lenses, and use microfibre cloths to wipe off excess moisture when you're in the field.

“Keep spare kit zipped away when not in use”



ESCAPE THE ELEMENTS

Take simple precautions when you're shooting in the field, to protect your kit from damage

1 RUCKSACK COVER

When in a dusty place, use this to protect kit

2 PACKAGING

Keep original packaging to keep your kit in

3 MICROFIBRE CLOTH

Use a soft microfibre cloth to wipe off sea spray and rain before it dries on lenses

4 PROTECTIVE CASE

Keep filters in cases when they're not in use

5 RAINCOVER

Fasten this to your camera and lens to keep it safe and dry when you shoot

Master mountains

The dizzying heights of mountain images

Mountains are the mightiest of vista locations, and where you stand to photograph them will greatly affect the outcome of your picture. From a valley viewpoint, include near objects, such as overhanging trees and branches, to frame the shot. Looking upwards from a low perspective can make a mountain seem much more impressive and awe-inspiring, whereas photographing the mountain from the peak or higher vantage point will play upon the idea of scale and dominance.

The camera doesn't record like the human eye; it can often be tricky to ensure a proper exposure for the sky and the mountains, and in these situations a graduated neutral density filter is handy to use. Place the transitional section of the filter between the foreground of the composition and the upper peaks, moving it up and down in the holder and using Live View to help you fine-tune the transition line in your composition.

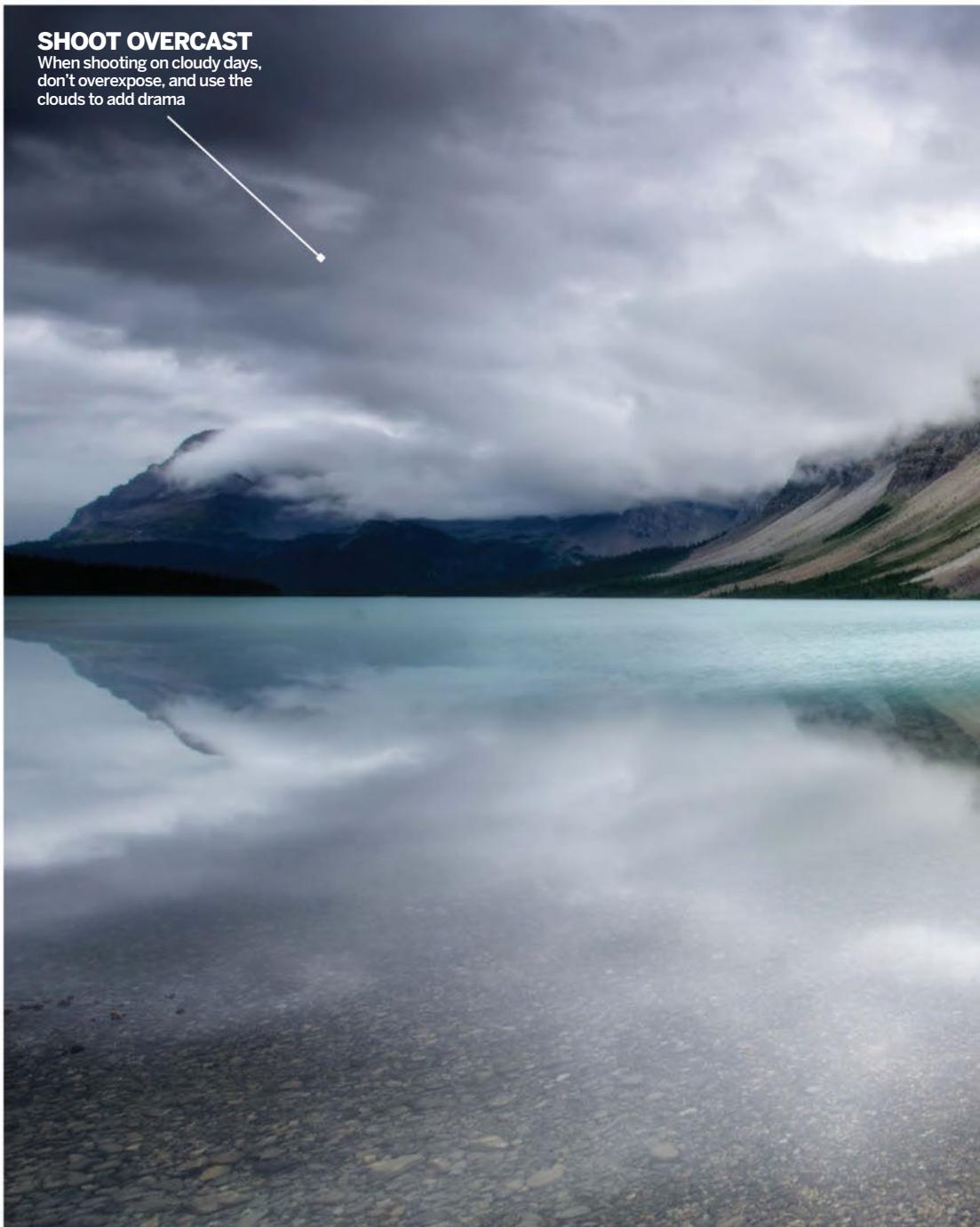
As with all landscapes, you should always consider how to light for the subject. A mountain can have great texture, so avoid front lighting that will make it appear flat. Back lighting will emphasise shape and form, and side lighting creates dramatic shadows.

“Back lighting will emphasise shape and form, and side lighting creates very dramatic shadows”

Stay sharp Use hyperfocal focusing to maximise depth of field without using the narrowest aperture



1 CALCULATE DISTANCE Enter details for your camera, focal length and aperture on an app like HyperFocal Pro. Mount your camera securely onto a tripod, set the zoom, and then dial in your aperture.



2 MOVE MEASURE the distance from the camera to a convenient object in the frame, using a rangefinder or standard tape. Move until your distance matches the hyperfocal distance.



3 LOCK IT OFF Switch the lens to manual focus, focusing on the object you previously measured from. You should avoid moving the lens, taking the final shot with a cable release or self-timer.



▲ BOW LAKE, CANADA

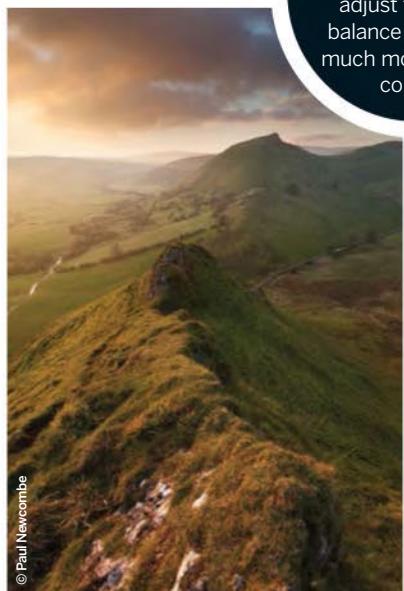
A great shot by Andrea Auf dem Brinke (www.brinke.500px.com)

► CHROME HILL

The time of year was important in enabling this shot to be taken

► MAM TOR, PEAK DISTRICT, UK

Scenes can change quickly, and this mist lifted as the Sun rose



Advanced techniques

SHADOW PLAY

By shooting at dusk or dawn, it's possible to capture long shadows that add depth

SHOW SCALE

Include objects that will juxtapose with the sheer magnitude of the vista you're shooting

© Radek Sevcera

Balance plains

Add depth to scenes by picking out details

Photographing plains is a great way to focus on the composition of your vista shots, with rolling hills and huge expanses of scenery impressing a grand sense of scale. Wide, open spaces can be hard to photograph because they often lack a point of interest, so choose objects that will act as a focal point, such as a group of trees or a lone dwelling, using a narrow aperture like f16 to achieve a sharp image from foreground to the horizon.

Plains lack distracting elements, so they're a location where traditional composition techniques work exceptionally well. Use the rule of thirds, composing your image with the help of the grid function on the camera's LCD screen. While you can place importance on either the sky or the land, for a more unusual image, leave the sky out of your image completely.

By nature, plains are wide and open, so make sure you spend time researching the lighting, weather and conditions before your shoot. Use apps such as The Photographer's Ephemeris (TPE), a map-centric Sun and Moon calculator that will enable you to see how the light will fall on the land, day or night, for any location.

“Use the rule of thirds when you’re composing”



© Radek Sevcera



◀ SENSE OF SCALE

The best way to help a viewer appreciate the size of the scenery is by including a secondary subject

▲ FORGET THE SKY

Focus on the land for a more unusual shot, using a telephoto lens to compress the perspective

► CREATIVE COLOUR

Shooting during the golden hours can create stunning colours to add an extra dimension to simple shots

◀ STAY SIMPLE

It can be easy to overcomplicate landscapes. Don't be afraid to focus on the shapes and textural elements

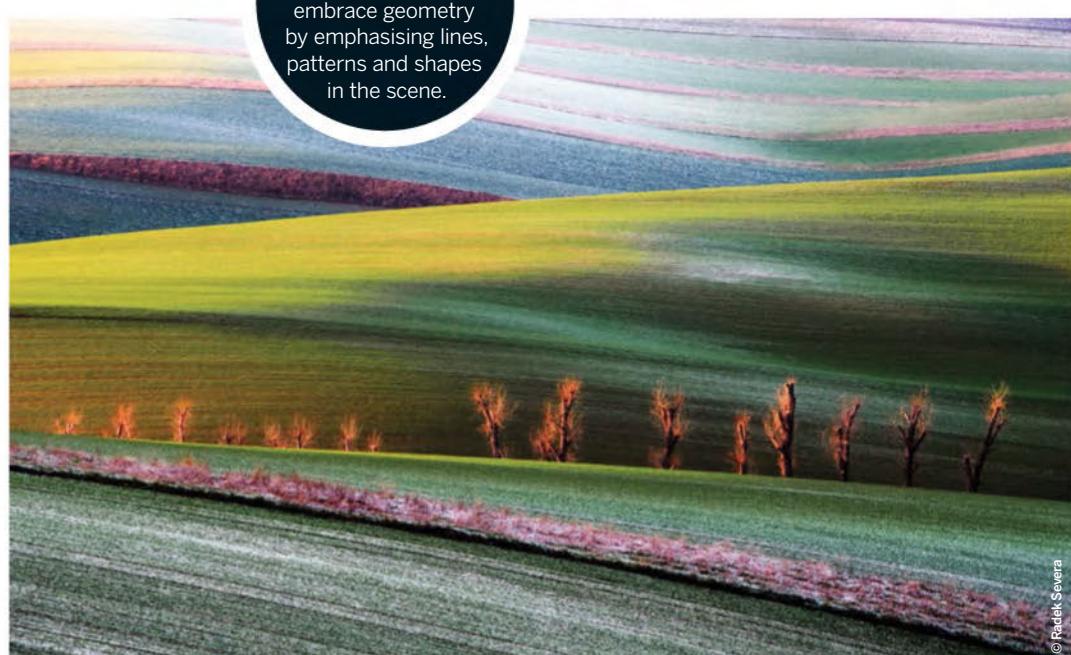
▼ POINT OF INTEREST

Severa has used a line of trees as an effective focal point



DID YOU KNOW?

For stronger shots, embrace geometry by emphasising lines, patterns and shapes in the scene.



Rules of composition

Create impact with traditional techniques and keep the viewer's interest in the frame

Use diagonals

Diagonal lines are a great way to draw the viewer's eye. They could be made up of anything found in the landscape, like hedges, a fence, a river, or the edge of a rolling plain.

Frame images

This is an effective way to draw attention to the subject, and helps to give the viewer context. Look for overhanging branches and arches of rock that will help to give your shot a sense of depth.

Lead-in lines

Guide the eye through an image with lead-in lines. Obvious examples would be a river or pathway that winds its way through the shot, but you can use more subtle things like rocks or waves.

Rule of thirds

It can feel like a cliché, but the rule of thirds is effective in creating a balanced composition. Compose images with the screen's grid function, placing points of interest a third of the way into the frame.

Change your height

Many images are taken at standing height, but compositions can be dramatically improved by using a more unusual perspective. Rest the camera on something stable, or set the tripod low to the ground.



LEAD THE EYE

Winding lead-in lines guide the eye naturally through the image, with the tractor acting as a focal point

Working with Wildlife

Jump into the wild and uncover practical advice and pro insight on how to capture nature's intriguing creatures

We share our planet with Mother Nature's most fascinating subjects. Wildlife has the ability to captivate all of us, and so it seems only natural that we would want to capture our experiences with it on camera to share with the rest of the world. In this feature, we'll be exploring the photographic genre in detail and unearthing the practicalities of working in the wild with unpredictable, and often elusive animals. You'll discover what it means to be a wildlife photographer, and learn how to use your skills to document the natural world and help raise awareness of conservation efforts. You'll also learn that wildlife photography is not all about safaris and the exotic species that roam the savannah; it's also on your doorstep and can be just as enthralling to photograph.

We'll cover expert shooting techniques, ideal camera settings and all the equipment you'll need to get the shots. The professionals will also be talking with us, keen to share their experiences and advice on working in the wild. ►



A large African elephant stands in a grassy field under a clear blue sky. The elephant is positioned on the left side of the frame, facing right. Its skin is wrinkled and textured. A large white tusk is visible on its left side. The background features a line of green trees and bushes. The overall scene is bright and sunny.

Advanced techniques

Shah Rogers Photography

shahrogersphotography.com

Photographers Anup Shah and Fiona Rogers specialise in close-up wildlife photography. They frequently shoot fantastic close-ups of African wildlife in Tanzania. Here, they share their advice for those who'd like to follow in their footsteps.

"There is no date at which we became full-time wildlife photographers. It was a gradual transition, an evolution. The approach we take is to spend a lot of time with our animal subjects, get to know them, and photograph them on their terms.

A location we return to time and time again is the Gombe National Park in Tanzania. When you photograph animals on their terms, you get good close-ups when they come to you, driven by curiosity. On their terms you'll [capture] relaxed animals that behave naturally"

CLOSE ENCOUNTERS

Never put yourself at risk when working with wild animals. Take appropriate precautions and use your zoom lens



Works
best with
**AF-S Nikkor
70-200mm
f2.8G ED
VR II**

Gear guide

Nikon AF-S NIKKOR 70-200mm f2.8G ED VR II

Web: www.nikon.com **Price:** £2,248/\$2,400

It's not the farthest-reaching telephoto out there but the Nikkor 70-200mm offers fantastic-quality optics that are ideal for wildlife photography. This lens includes a superb f2.8 wide aperture setting and some of Nikon's best lens technology, including fast AF with silent wave motor (SWM), vibration reduction (VR II) and nano coating.



Nikon EDG binoculars

Web: www.nikon.com **Price:** £1,300/\$1,979

The Nikon EDG range was originally designed for viewing sport, but they're also fantastic for wildlife photographers. Extra-low Dispersion glass prevents chromatic aberration, allowing you to get a clear view, while high magnification means that you can survey a scene while staying put. This is perfect if you're photographing the more aggressive kinds of wildlife such as big cats.



Gitzo Mountaineer 6X tripod

Web: www.gitzo.co.uk **Price:** £610/\$500



If you're working with large lenses you need serious support. A tripod like the Gitzo Mountaineer will save your wrists and shots from camera shake. Made from crossed layers of carbon fibre, this Gitzo tripod is lightweight and absorbs vibration. It also comes with a simple leg-locking system.

Lowepro Flipside 500 AW

Web: www.lowepro.com

Price: £150/\$250

It's important to ensure your kit is safe on a wildlife shoot. A hard-wearing bag like the Lowepro Flipside 500 AW is ideal and can hold pro-sized camera gear including a 500mm lens. There's even a tripod mount, all-weather cover and storage space for personal items.



EYE CONTACT

Direct eye contact is essential for animal portraits. Be sure to keep the focus sharp too



Having a passion for wildlife is integral to this area of photography, as is patience and persistence. It's a demanding genre and working outdoors against the elements can quickly take its toll on you and your kit. However, investing in the right equipment will help to maximise your time out on a shoot. You'll need to be willing to part with a fair few pennies, as what is considered essential doesn't always come cheap. A standard kit lens might be great for the back-garden variety of wildlife but if you're intending to venture into the wilderness, you're going to need some specialist optics that can keep up. A good-quality telephoto lens such as Nikon's own is indispensable, as it will offer far-reaching focal lengths that'll enable you to crop-in closer. In some situations, these lenses will also ensure your safety, as it's possible to work from a distance. Although you're guaranteed better quality optics with prime telephoto lenses, you will be restricted in focal range. A telephoto zoom lens is a much more versatile option and you have the flexibility to frame both wide and tight.

In addition to selecting your ideal optics, you'll also need to invest in some serious accessories

that are able to withstand the sort of terrain and elements you'll be working in. A good-quality tripod will offer support and can save your shots from camera shake, particularly when working with long telephoto lenses. A durable camera bag is also essential as well to keep your kit safe and dry when it's not in use. Spending more money up front for better-quality kit will save you in the long run, as you won't have to pay out for pricey repairs or replacements as quickly. But don't rush into purchasing every gadget that promises improved photos, work with the essentials first and build up your kit bag as your shooting skills develop. Preparation is fundamental to any shoot but for wildlife photographers, research is imperative. Particularly if you're working with rare or endangered species. As a wildlife photographer it's your responsibility to have a good understanding and appreciation for the animals you're working with. The right knowledge will also help you to make informed decisions that can ensure both your safety and that of the animals. Use research as a tool to help you take better photos by uncovering interesting facts that detail a particular



©Paul Joynson-Hicks

▲ ANIMAL ACTION

Watch out for speedy subjects and animal action. Capture motion using faster shutter speeds and selecting your camera's tracking autofocus function to keep subjects sharp

▼ ESSENTIAL OPTICS

Wildlife photography requires the use of far-reaching focal lengths. You can zoom in to your animal subjects from a distance, which is great for both your safety and shooting close crops



Q&A

Wild insights

Professional wildlife photographer **Victoria Hillman** shares her advice and top tips for capturing successful wildlife shots at home and away



Victoria Hillman

Name: Victoria Hillman

Bio: After studying a degree in zoology with marine zoology, Victoria undertook a masters degree in wildlife biology and conservation. She says, "My focus is not just to photograph wildlife but to use my knowledge to acquire a deeper understanding of interactions and behaviours." She was recently appointed research director of the Transylvanian Wildlife Project and her work has received a number of awards.

www.vikspics.com

Is research important in wildlife photography?

Researching your subject is vital, not only for capturing

images but also for the welfare of both your subject and yourself. My first port of call is researching my target species, its behaviour and any patterns it may follow, and also its habitat. The welfare of that species comes first even if it means missing 'the shot'.

What's your most memorable animal encounter?

It has to be seeing a greater bamboo lemur in the wild in Madagascar. I had spent some time with one individual watching him sleep, just as I left he woke up and started to eat. At that moment he looked straight into my eyes and feeling his stare brought tears to my eyes.

In your opinion what makes a great image?

A good wildlife image for me has to show an emotional connection with the subject. There has to be something striking about an image that is both thought-provoking and tells a story.

What are your top tips for wildlife photography?

Research your subject and its habitat, and concentrate on just one species or habitat at a time. Always put the welfare of your subject first and remember that patience really does pay off! Know your equipment inside and out – I can't emphasise this enough, the better you know your equipment, the better the results.

Victoria's images are available for use in publications and to buy as fine-art prints from her website vikspics.com. Canvases are also available on request. Contact Victoria for details on tailor-made talks and photographic tuition too. She is also a UK local hero of the Manfrotto School of Xcellence and runs webinars through their website throughout the year; Victoria's previous webinars are available through the webinar archive section at manfrottoschoolofxcellence.com.



► GET KIT SAVVY

You won't have control over the light so use your lens hood to help prevent glare and keep you from worrying about the sun

► BE DISCREET

Avoid detection by shooting discreetly. This is the best way to capture natural animal behaviour in your photographs

► PERSISTENCE PAYS

Remember the three Ps: practice, patience and persistence. And it also comes down to being in the right place at the right time



► creature's habitat, life span and behavioural traits. With this information you'll know more about where to find the animal, the best time of day or year to photograph them and what characteristics are distinctive to the species. Knowing more about the animal will not only ensure that your work stands out, but also help towards building our understanding of the natural world, which in turn can help aid conservation efforts.

Of course no two animals are the same, so don't expect the research you've unearthed on one subject to apply as easily to another. Photographing wildlife in the Sahara for example, is entirely different to photographing those that are native to the British Isles. It's important to bear in mind that an animal's habitat can also have a considerable effect on the outcome of your shoot. It goes without saying that you should always look into the weather conditions leading up to your shoot and prior to setting off so that you're adequately prepared. In addition, don't forget to research how the season generally affects the wildlife in the area you're working in. This is an easy way to establish what other species may be around.

Fortunately, wildlife photography really is a year-round genre and you're certain to discover plenty of intriguing critters throughout the seasons. Photographing during the spring and summer months will guarantee you a lot more natural light and improved weather conditions; early morning starts and later evenings will enable you to fit in

much more shooting time. The warmer weather will also bring out hibernating species that have been tucked away over the cooler autumn and winter months. Animals in general are a lot more active this time of year and you'll find greater opportunities to capture their new offspring on camera too. Always do research into this area first though and be wary of nervous mothers, you don't want to be responsible for scaring off a mother who in turn abandons her young or attacks you. Keep a safe distance at all times and remember to remain respectful when working in their environment.

Springtime will welcome back migrating birds. Venture out to local wetland areas for better sightings of much rarer species. Capturing these fleeting subjects on camera though can be challenging so you'll need to stay alert. A fast shutter speed is essential and will enable you to freeze motion and ensure your shots appear sharp. When working with a telephoto lens, in any situation, always remember to ensure your shutter speed is set higher than the focal length you're working at. For example, shooting at 300mm means your shutter speed should be set to at least 1/350sec or above. This will help to eliminate the possibility of camera shake. When working with speedy or skittish subjects such as birds or elusive mammals, make your subject the priority. Focus on freezing the action first and exposing the image second. In some scenarios, it's unlikely that you'll find enough time to manually adjust all of your exposure

settings, in these situations, switch over to using shutter priority. This lets you decide the shutter speed setting, while the camera determines the best aperture for a balanced exposure. Don't worry if your camera underexposes the image as a result by a stop or two. It's easier to work up a slightly darker image than it is to rescue blown-out highlights.

If the animal you're photographing is known for speed, don't be afraid to incorporate this characteristic into the frame too. Use your camera's continuous autofocus setting and set a slightly slower shutter speed of around 1/80sec. Start by focusing the camera on the animal and then pan with them as they move, while you release the shutter. For seamless results, tuck in your elbows and move your whole body at the hips. The image should see your subject appear sharp while the background is blurred, representative of movement. During the autumn and winter months, the landscape will transform. Take advantage of the natural warm colour tones during autumn, which can make for incredible backdrops in your wildlife captures. Early risers should set off at sunrise to really make the most of the light quality and colour tones. At this time of the day, a lot of animals remain relatively relaxed and are often focused on finding food. But don't be fooled into thinking this distraction means you won't be seen. All species are built for survival and as a result have extraordinary instincts. Consequently, bounding across the savannah or a meadow with your camera in

Top tips for looking after kit

01 GET INSURED

Always take out appropriate insurance that covers you and your kit. This way you'll have peace of mind no matter what happens on when you're on an unpredictable wildlife shoot.

02 KEEP IT DRY

Invest in waterproof covers that will protect the camera and lens from extreme weather conditions. Don't forget to use your lens hood too, it'll help shield the glass from ugly water spots.

03 BANISH MOISTURE

If you're working in wet, damp or humid conditions, place loose rice grains inside your camera bag to help absorb moisture that can have an adverse affect on your equipment over time.

04 DUST DOWN

Use a blower brush to remove loose particles from your camera after an outdoor shoot. If you changed lenses, you may also want to clean the sensor to keep things in top condition.



Advanced techniques



Where in the world?

A global roundup of the planet's most amazing creatures and the pro imaging courses to help you photograph them

South Pacific Ocean





▲ PACK IN MOTION

Don't be afraid to experiment with camera settings to get more artistic images. Slow down your shutter to illustrate motion in fast-moving subjects and add emphasis to the action taking place in the scene

◀ SUBJECT FOCUS

Use wide apertures to embrace a shallow depth of field effect. The artistic blurred background will also draw the attention to your subject, which is great for majestic creatures such as big cats

► hand won't get you the shots you're after; you'll need to take a much more considered approach.

If you can, try to position yourself downwind of the animal and move slowly. Natural-coloured clothing that blends in with the surroundings will help you to remain undetected. You can take it a step further if necessary by waiting it out in a hide. Once you've set up your kit, it's really all about patience, but provided you've done your research, you should be able to locate a good spot. To avoid blowing your cover at the last minute, remember to set your camera to its silent mode settings. More advanced lenses offer an in-built silent wave motor that makes autofocus adjustments undetectable. High-end camera models will also offer a silent shutter mode that's great for minimising noise.



©Paul Joynson-Hicks

Once winter takes hold you'll notice a change in the weather, scenery and active wildlife. This can apply to photographing wildlife at home and on safari. If you're shooting in cooler climates, don't be put off by adverse weather conditions. Frost and snow won't stop the animals from foraging for food so there's still plenty to see and shoot. With less foliage around though it can be more of a challenge to remain unseen and you may struggle with your exposure settings. Fewer daylight hours will also be restrictive so you'll need to work around the hours of the day that the animals are active.

Although some landscapes look a lot bleaker during the winter, it's still worth framing wide to add context to wildlife captures. Use the rule of thirds or negative space to keep the composition engaging. Zoom in to get a tighter crop if your subject is stationary. Work with wider aperture settings here in order to draw focus to your subject. Always remember to ensure that the animal's eyes appear sharp too, as this is where the viewer will be drawn to first.

Wildlife photography on the whole requires a lot of patience, practice and persistence. If you can stay undetected, you're guaranteed some great shots. Never forget that you're working in an animal's habitat and always be mindful of what impact it could have on the wildlife of the local area.

Q&A

African adventures

Photographer and African-wildlife expert Paul Joynson-Hicks shares some pro shooting advice



©Paul Joynson-Hicks

Name: Paul Joynson-Hicks MBE

Bio: UK born and bred, Paul has spent the last 20 years as a professional photographer in East and Central Africa. He has published many photography books, is an Associate member of the Royal Photographic Society and is fluent in Swahili. In addition to his photography, Paul has also set up a number of very successful charitable organisations. In Uganda, Paul worked with street children and set up the Tigers Football Club (retrak.org). In Tanzania he created the Goat Races (goatraces.com), and in 2004 he established Wonder Workshop (wonderwelders.org), which enables handicapped men and women to produce highly commercial creative metal artwork, wooden toys, recycled paper products, and handmade soap, which are now taking commissions from around the world.

pauljoynson-hicks.com

How did you first get into wildlife photography?

Being a photographer and living in London, I came to Uganda 20 years ago to spend six months producing a photographic book on the country. I loved it and stayed. Since then I have spent much of my time shooting wildlife – it's the perfect place to be!

What's the best time of year to photograph African wildlife?

All year round! In the rainy season you can get some great shots of beautiful green grass and happy animals, dramatic skies and so on. In the dry season animals congregate around water so it's a bit easier. Shooting at either time is equally enjoyable.

How important is it to research the animals that you intend to photograph?

This is crucial; the more you know about an animal, the more you will be able to interpret their behavior or predict what's going to happen next, where they might be or when they are calving, for example. Also, if it's 10am, and very hot, and you see some lions lying in the shade panting you know not to bother (well, usually!) hanging around waiting for any action. There won't be any. You can come back later that day and still find them there!

Is there a preferred time of day to photograph African wildlife?

Early morning and late evening – with the sun low to the horizon the quality of light is so beautiful, flooding the land and the wildlife with a stunning golden light. Also, perhaps more crucially with wildlife, the low light brings catchlights into the eyes and fills the face with light. At midday the eyes would be in shadow.

What is your most memorable animal encounter to date?

Holy mackerel – there have been many. I was charged by a humongous silverback gorilla in Uganda in 1993, it was a mock charge (probably) but still hugely alarming. Thankfully he was also dragging a tree and couldn't decide whether to drop the tree or try hitting us with it. In the end he thought better of both...

Ultimately though, my most extraordinary wildlife experience was spending two days in the Serengeti ecosystem, in a place called Piyaya watching one pack of wild dogs hunting. It was mind blowing to the extreme. They are the most beautiful and amazing creatures on this planet. Lions pale into insignificance next to their brilliance – if there was a Top Trumps for African predators, wild dogs (alternatively known as hunting dogs, *Lycaon pictus*) would win. They are approximately 80 per cent successful in their hunts. They are highly sociable, they look after other females' puppies, they can run faster and further than any other predator (except the cheetah on a sprint) and tragically they are extremely vulnerable to human predation.

Have you ever been in any particularly dangerous situations when out photographing?

The gorilla charge was pretty hairy! That aside, we were once in a vehicle and charged by a stroppy and very sick elephant. Thankfully the reverse gear of our old Pajero was just faster than his charge. Another time I was about to jump into a hollow baobab tree to shoot some bats when we thought we had better check first. I found a large black-necked spitting cobra curled up right where my feet would have landed – close shave that one! I've been lucky, but also, as long as you follow a few simple rules to the bush you can avoid getting injured. Just be sensible and you can still get incredible photos.

What's your most important piece of kit when working out in the field?

(Apart from the cameras and lenses of course) you aren't going to get far without a good vehicle and I am very lucky to have an old land cruiser which takes me up mountains, through gullies, across rivers and only rarely gets stuck. So, that and my big tripod!

Do you have any top tips for photographing animals in the wild?

Take the time to get to know the animal and the area you're capturing and understand about light – early am and pm. Always look to the animal's eyes first. Be bold and brave when you're photographing – don't always follow the rules – use light and composition to change the way you think about your images. Always enjoy where you are, have fun, respect nature and the wild and you will come away with a richly fulfilling experience.

Paul runs wildlife photography workshop throughout the year with Capture Safaris (capturesafaris.com). Paul has three great workshops coming up later in 2013, which are:

Mighty Wildebeest Migration, 21-29 September 2013
Highlights of Ruaha & Selous, 27 October – 2 November 2013

Big cats of the Serengeti, 10-17 November 2013

Check out the Capture Safaris website for further details regarding price, availability and a rundown of the Capture Safaris photography experience.

Capture motion

Discover the best techniques you need to master long exposures and freeze action in its tracks

At its core, photography is all about stopping motion and capturing tiny moments of time in a single freeze-frame. It's for this very reason that photographers are constantly inspired to shoot action, showing the reality of their images. To capture this sense of life and movement in a still image you might decide to keep the camera still, and so blur the subject, or to trace a subject's movement so that it's sharp with a blurred background. What's more, adding artificial light to the mix then opens up a whole new wealth of creative possibilities.

There are so many situations when showing movement makes for even more beautiful and creative imagery, be it a wild wave crashing onto a cliff face, a speeding motorcar, or an athlete in the heat of competition.

Here you'll learn how the pros use high-speed flash to freeze water droplet collisions, as well as the magic of slow shutter speeds when capturing motion in serene waterscapes, and landscapes after dark. Master the best techniques for capturing the fast-paced and beautiful moments that a life in motion has to offer.

A SKY FULL OF STARS

Using long exposures to capture moving water is an effective, creative way of working with motion, and can add a sense of drama to a scene

© Marius Kastekas







© Ray Cooper

CAPTURE GROUPS

A flock of birds racing through the sky makes for a dramatic image, particularly when taken at dusk against a golden backdrop.

Use Aperture Priority mode and dial in a low ISO to blur flight movement with a slow shutter.

Enhance nature's movements

Choose between pin-sharp shots or artistic motion blur when shooting wildlife and landscapes

Nature never stands still, and whether you're photographing wild weather, waves breaking on the shore, or a bird mid-flight, you'll never be short of subjects.

A pin-sharp image of an animal in action has mass appeal, and your first consideration should be your shutter speed. To achieve a great image, shoot in manual mode, select a wide aperture, and try to keep your shutter speed approximately equal to the focal length of the lens. For example, if you're using a 300mm telephoto lens, you'll need to choose a shutter speed of at least 1/300sec to avoid motion blur. Smaller, swift-moving subjects, such as birds, require a considerably quicker speed, closer to around 1/1,000sec.

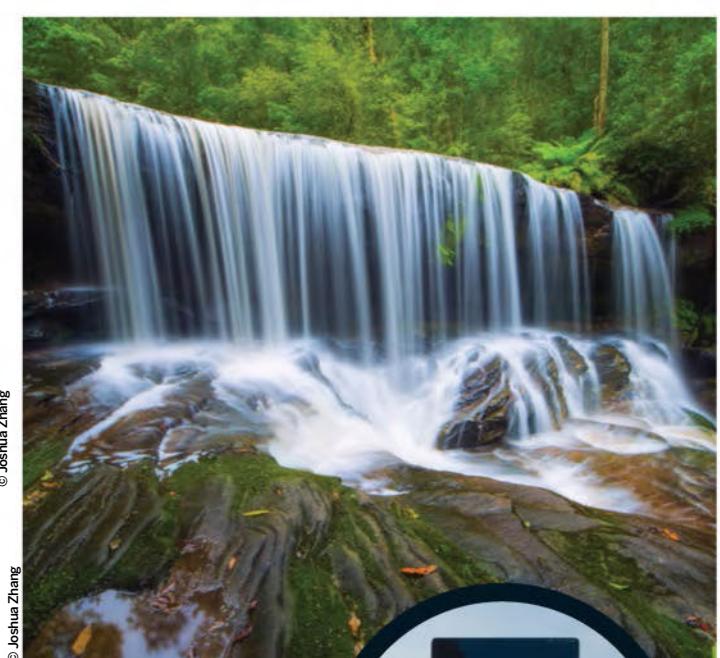
For hard-to-capture subjects like insects, invest in a camera trap that's triggered by movement, light or noise, such as the MicroFlash Pro (www.highspeedflash.com), which is able to achieve a flash duration of 1/28,000sec.

If the shooting conditions won't allow for shutter durations that are this short, or if you're looking for something a bit more abstract, try panning

over your subject's movement with an exposure of around 1/60sec or longer.

Though panning is generally a technique associated with motor sports, it can be very effective when your subject's face remains relatively sharp and the background is blurred, and panning shots can really draw the viewer's eye into the image.

“For hard-to-capture subjects like insects, invest in a camera trap that's triggered by movement, light or noise”



◀ WING CHALLENGE

Ray Cooper used a 1/1,000sec shutter to retain the motion blur in the hummingbird's wings

▲ ANOTHER WORLD

Landscapes are instantly more dynamic when they include motion through the scene

▲ ▶ PERFECT TIMING

In this shot a shutter speed of 1/1,600sec froze the waves' for a split-second

▶ PEACEFUL SOMERSBY

Zhang used a one second exposure to perfectly capture the smooth flow of the waterfall

Extend exposures with a neutral density filter

Blur water movement and create atmosphere in your landscapes

One of the most common subjects to use an ND filter with is water, as waterfalls and coastal scenes take on a whole new feel when the motion appears smooth and milky. ND filters are perfect for shooting during the day, and reduce the light entering your lens. The Big Stopper (www.leefilters.com) for instance will reduce the light by approximately ten stops. In real terms, this turns a 1/30sec exposure into a 30-second one that's perfect for recording smooth water motion.

As ND filters are available in a range of light-stopping powers, you might find it a more flexible solution to buy several varieties. To achieve a correctly exposed scene, compose the shot and take a meter reading before fitting your filter, then calculate the exposure time needed for the strength you want to use. Your filter will usually come with an exposure table, so use this to calculate the correct conversion and set your desired aperture and shutter speed. Use a remote release to fire the shutter, and take care not to knock the camera or tripod during the exposure.

GUIDE TO WATER MOTION



1/200 SECOND

Depending on the speed and size of the waves, a shutter of around 1/200sec will freeze most kinds of water movement

1 SECOND

A one- to four-second exposure will create a misty blur of water. The most natural look comes with speeds of 1/4 to two seconds

20 SECONDS

Between 4 and 30 seconds the water tends to lose its definition, and will take on a smooth, milky appearance. For longer exposures, use Bulb mode

Sport at speed

Capture athletes in motion by pushing shutter speeds to the limit

The genre of sport, by its very nature, conjures up images of subjects in motion, and images that freeze fast-paced pivotal moments. There's great scope for shooting movement in the sporting world, and preparation is key to capturing a great shot in the heat of competition. Get to know the sport you're photographing inside out, researching the rules of the game so that you're able to anticipate what's about to happen in front of you and be ready to shoot it.

In terms of technique, there's plenty of artistic scope for long exposures to convey movement, but if you're working for a professional client, you're probably going to need to freeze the action. To stop action, as a general rule, it's critical to use a minimum of 1/800sec shutter speed.

When you are using long lenses, shoot wide open using the maximum aperture to minimise any distractions in the background and ensure that your main subject stands out. Focus on particularly fast-moving objects using the back-button AF on the back of your camera's body, holding it down as you track your subject's movement. This will fire off a burst of shots right at the very peak of the action.

“Anticipate what’s about to happen and be ready”



Combat shutter lag

Pre-empt the subject and speed up your camera

The term shutter lag refers to the time between pressing down the shutter, and when the photo has actually been recorded. When photographing fast-moving objects or people in motion, any delay is an evident problem, but you can overcome it to a certain degree by anticipating your shot and using presets on your camera. On most DSLRs, when you press down the shutter halfway, the camera will set the focus and exposure before you take the shot. Then, on a full press of the button, the shot should be taken almost instantaneously because the majority of the processing has already taken place.



STROBOSCOPIC FLASH

Most modern speedlights are capable of firing a rapid burst of low-power flashes to capture a sequence of images of a moving subject in a single frame. Shoot against a dark background to avoid overexposure.

COMPLEX ACTION

Photo sequencing only works when the object moves across a static background, but it's a great way to show the intricacies of potentially complex movements

MAKE A SPLASH

Use a mid-telephoto lens with a wide aperture to achieve the fast shutter speeds needed to freeze high-speed sporting action



Create a composite

Use continuous shutter mode and Photoshop

By shooting a sequence of photographs from the same position then stitching them together, it's possible to show an entire movement or stunt in one image. Set the high-speed continuous shooting, make use of a sturdy tripod, set the focus point on where the action is and leave it in manual. Make sure you use the same exposure throughout the sequence.

Open Photoshop, go to File>Scripts>Load Files Into Stack, and select your frames. Photoshop will open the images into layers and align them. Arrange the first image of the sequence as your bottom layer, then use layer masks or the Eraser tool on each additional frame to reveal the sequence.



© Manuel Catini

Get creative with your speedlight

Use rear-curtain sync flash to capture creative motion trails

Combining a slow shutter speed with a short burst of flash will capture a subject that's still and sharp, but with the added effect of motion blur. By selecting rear-curtain sync mode on your camera, the flash will be fired at the end of

the exposure, rather than the beginning. This means that the ambient shutter blur occurs first. Slow-sync flash requires the use of relatively slow shutter speeds, to intentionally make the blur trail visible.



1 Select camera settings Use manual mode and dial in a relatively slow shutter. This image used 0.8 seconds, but the exact exposure will depend on your subject's speed.



2 Set up the flash Attach a speedlight onto your camera's hotshoe, and set the flash power to around 1/32. The flash will freeze the subject's motion – experiment with the power.



3 Choose rear-curtain Select rear-curtain flash and a slow shutter speed such as 1/60sec, which will record the ambient light trail. Put the camera on a tripod and shoot.

Dynamic transport imagery

Stop vehicles in their tracks by being creative with your shutter speed

Whether by road, sea, rail or air, transport is both essential and ubiquitous in our daily lives, but easily overlooked as a subject. Try capturing high-speed vehicles with intentional motion blur to emphasise their speed and dynamism. In particular, night-time and the golden hours are the perfect times to capture long exposures, especially when you are focussing on the movement of lights in the traffic, for example.

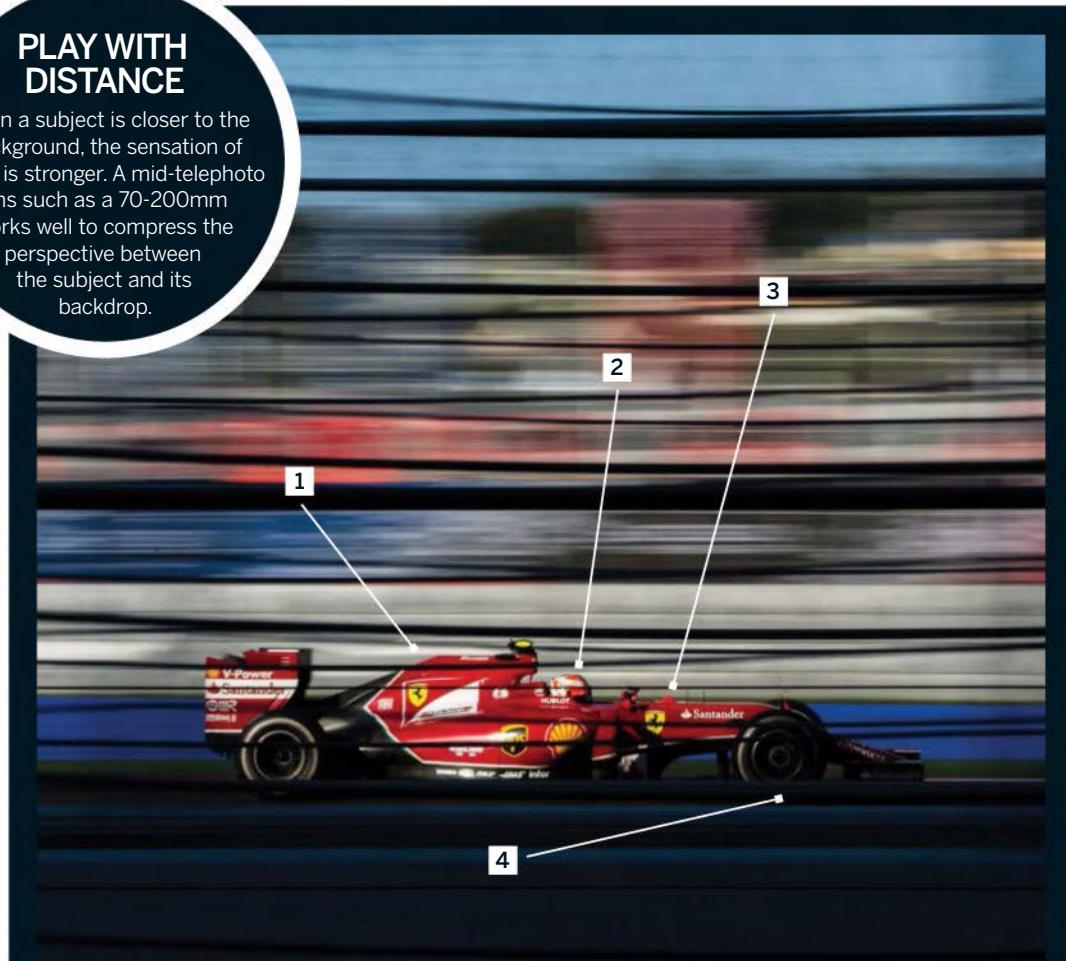
A great technique for conveying speed is to physically move your camera during an extended exposure, panning so that the subject remains in the same position in the frame. For the best results, set yourself up so that you're parallel to the path of your object, and so that it's the same distance away from you throughout the exposure.

Another option is to take pictures from inside a moving vehicle for a different perspective, bearing in mind that motion blur will be much more pronounced when shooting from a side window than it will be if you take the shots from the front or back.

However you choose to capture the action taking place in front of you, it's easy to enhance the effect in post-production using the Motion Blur and Radial Blur filters in Photoshop to subtly bring out the subject's movement even further.

PLAY WITH DISTANCE

When a subject is closer to the background, the sensation of speed is stronger. A mid-telephoto lens such as a 70-200mm works well to compress the perspective between the subject and its backdrop.



Master panning

How to get the best results with speedy subjects

1. LONG EXPOSURE

Panning shots require you to set a slower shutter than you would normally for a handheld shot. Start with 1/60sec and experiment with slower durations

2. SUPPORT IT

Use a monopod to achieve a smooth panning motion when tracking subjects across the frame. Use a model with a fluid head for the best results

3. STAY IN FOCUS

Switch your lens to autofocus and choose continuous autofocus from the camera menu. This will keep the subject in focus as you follow the movement

4. STEADY TRACKING

When your subject enters the frame, pull your elbows in, twist at the waist and release the shutter, continuing to follow the subject after it has passed

Compose the movement

Keep interest in the frame through engaging compositions

When you compose an image of a moving subject it's generally preferable to place the subject to one side of the frame and leave space for it to move into. This will create a feeling of balance and harmony, with the viewer automatically imagining the motion of the subject continuing across the frame. Use roads and light trails as lead-in lines through your shot. Try rotating your camera to experiment with the horizon and placement of lines – diagonal lines are more discordant but suggest movement.





PRAGUE UNDERGROUND

Transport and architecture go hand-in-hand for an interesting subject, but the addition of a light trail draws the viewer in

© Tristan O'Tierny



Capture light trails

Record moving streaks of light with a long exposure

Capturing light trails is a great technique for urban environments, and involves using a long exposure to record streaks of light from moving vehicles. The difficulty comes with balancing the ambient light in the scene with the brightness of the moving light source. Use a sturdy tripod to minimise vibrations in the shot, and a remote release to fire off the shutter without touching the camera. An ND filter is also useful for stopping out unwanted light

from the exposure. Position yourself somewhere that has a regular flow of traffic, such as a busy junction, set the camera to Bulb mode, dial in a long exposure and trigger the camera remotely. This technique is very much about experimentation, and the outcome will depend on the speed the lights are moving, as well as the amount of ambient light available. Modify the white balance, shutter speed, aperture and ISO until you're happy.

CONSIDER AMBIENT LIGHT

Many light trails are captured in the middle of the night, but shooting at dawn or dusk is great for adding atmosphere



▲ PICK YOUR SETTINGS

The exposure you choose will depend on the amount of traffic and the time of day, but start with an exposure of ten seconds

◀ ENHANCE THE PERSPECTIVE

The 16mm lens used in this shot has exaggerated the depth and size of the underground train

Shoot with high-speed flash

Discover how to capture split-second moments

If you've ever looked admiringly at pro images of water droplets suspended in mid-air, it's easy to think you'd need years of experience and an expensive studio to get started yourself. High-speed flash is a technique that requires practice and patience, but it can be achieved using standard speedlights. You'll need to dial your flash units down to their lowest power settings to reach the very fast flash durations needed for freezing split-second action. You'll also need to use a device such as the TriggerSmart (www.triggersmart.co.uk), to sync the camera's shutter with the collision. A long-reach macro lens is also necessary for close-up shots of intricate subjects.

When you've set up, take some test shots and check the precise focus on your camera or computer screen. Experiment with settings on the trigger controller and keep tweaking until you get the shutter timing just right. Once you've mastered shots of water, play around with the liquid you use – for example, use milk. You can also use food dyes in the water, or gels on flashlights if you want to experiment with colourful effects. Always protect your lens with a filter, as water spilling on your lens is easy to clean, but when using dye it becomes much more difficult.

“Use food dyes in water, or gels on flashlights”



MODIFY THE LIGHT
If you're using multiple flash units, adapt their output to create a balanced result. Bounce light off the ceiling or diffuse it with a portable reflector to create softer illumination.

LIQUID PLAY

Try using different kinds of liquids, as they will all react differently





Meet the expert

Pro photographer Markus Schilder gives advice on the art of split-second captures

www.markusschilder.com

Bio: As part of his varied portfolio, Schilder loves the fun of shooting water collisions using high-speed flash.

What draws you to split-second images?

It's wonderful to capture ephemeral images of moments that only last around 1/10,000sec, and yet happen daily around the globe when it rains. We can't capture with our bare eyes... So it's a real pleasure to be able to manipulate a camera, controller and a drop sensor to precisely place one drop on top of another.

What kit do you use to achieve your images?

I use a Nikon D800 camera, a Nikon f2.8 105mm lens, Nikon SB-900 and SB-910 flashlights, a Camera Axe controller, the drop sensor and the most important ingredient, water. You can also add in extras, like rinse aid, which change the water's surface tension in the bowl... Food dye gives exciting colour too.

How do you set up a shot?

First I set up a bowl filled literally to the rim with water, so that the water nearly spills over. My camera is mounted on a tripod and I place the drop sensor above the liquid. In order to get the focus right, I place a screw inside the liquid and try to align the drop sensor with this screw, moving the screw until each drop hits it dead on. I then focus the camera's lens on the screw. Next, I set up my Camera Axe controller, fine-tuning the collision of several drops. The controller triggers the first drop, the second and finally the third and after a certain adjustable delay triggers the camera, which is set to Bulb mode, and the flashlights.

What creates the bright colours that are found in your images?

I use translucent acrylic glass, which acts as a diffuser. I then placed household straws of all colours right behind the acrylic. These can be arranged next to each other, but I preferred to wildly mix them together. I usually use direct lighting from behind, shooting through the straws and the acrylic glass to diffuse and tint the light.

What advice on settings could you give for this kind of freeze-frame photography?

It's very important to use flashlights with an adjustable low-power output. You can use any flashgun, as long as they can be set to 1/64 or 1/128 power output – this setting produces light for about 1/10,000 to 1/15,000sec.



© Andreas Stridsberg



© Andreas Stridsberg

▲ JUST A SPLASH OF COLOUR

Bright colours are not always the most effective, and cooler colours can create a different feel

◀ THINK OUTSIDE THE BOWL

Putting the liquid in something out of the ordinary will create a more exciting and abstract image

▼ BE IMAGINATIVE

You can change the light and ambience by moving the camera, but it's most important to have fun

▼ ▶ EXPERIMENT WITH DYE

Experiment by adding food colouring to the liquid for some interesting colour effects



© Markus Schilder



ULTIMATE GUIDE TO

MACRO



Explore the intricate details of macro photography and shoot the world as you've never seen it before

Macro images seem to have an endless appeal. One of the greatest powers that photography has is the ability to show us aspects of the world, even the very familiar, in ways that make us reassess how we look at them, and macro is arguably the clearest example of this.

For those unfamiliar with the processes involved, macro images are almost alchemical, transforming the mundane into the marvellous, with the most everyday, minute subjects reconfigured as alien landscapes. Even the most seemingly uninteresting subjects can provide the most spectacular captures when macro and close-up techniques are applied.

Even if you are an experienced photographer used to viewing insects, flowers and other subjects in close-up, there is always the highly addictive challenge involved in both the inexhaustible

search for more macro subjects and the technical challenges involved in capturing creative close-ups to keep you well and truly hooked on macro.

The best news of all is that there is a wealth of great subject matter on offer and plenty of options for how to photograph them. Macro photography need not be limited to 1:1 magnifications – indeed, by broadening your scope to close-up photography in general, there is much to explore. As well as this, thanks to filters and adaptors, you don't necessarily need to equip yourself with expensive, dedicated macro lenses.

Over the next few pages, you will discover the kit and equipment that macro experts use to take stunning close-ups of everything, from flowers and water droplets, to moving subjects like small animals and insects. ►

► LOOK CLOSER
With the help of various tools and equipment, it is possible to shoot stunningly detailed images of the miniature world





► The two most popular subjects for macro and close-up photography are arguably flowers and insects, and a Google search for high-magnification images of fruit flies and orchids will yield a surfeit of results. However, it's worth remembering that there's a lot more to macro and close-up photography than this – there is really no limit to what can be achieved.

The most important thing to keep in mind with macro photography is that, because of the limitations of the human eye, it's not always easy to predict how subject matter will appear in macro. Experimentation is the best way forward. Something that appears fairly mundane and uninteresting can take on a whole new dimension in close-up, but you won't know that until you try. Macro photography is often all about unlocking hidden patterns and textures in subject matter that we normally take for granted and overlook.

Try to think in terms of the materials that something is formed out of in order to assess the characteristics that a particular subject might have. As a rule of thumb, you will probably have less success photographing a subject that has a very smooth and regular surface than you will when photographing subjects that are very textured.

Macro imaging presents very specific technical challenges that need to be overcome, something that photographers who've not attempted it are taken aback by when they first explore it. Much of the challenge hinges around the fact that the closer you focus and the higher the magnification, the more your depth of field diminishes – dropping down quite alarmingly at high magnifications.

Even if you're shooting at what in normal circumstances would be considered a narrow aperture, yielding plenty of depth of field, when your lens is focusing at a very short distance from your subject, this depth of field drops off dramatically, meaning that you'll struggle to capture satisfactory images if you don't stick to the narrowest apertures possible (you could also try focus stacking – see 'Increase sharpness' boxout).



► FINAL CAPTURE

This image reveals the benefits of focus stacking, enabling photographer Harold Davis to get the entirety of the iris in sharp focus

◀ INTRICATE DETAIL

Macro photography explores the incredible detail and clarity of the world in miniature

► IN PROGRESS

This image is part of the focus stacking sequence captured by Davis and features just the rear petal in complete focus to be combed with other shots later

This, in turn, has an impact on your exposure, as a narrow aperture needs to be compensated for somehow. Aperture and shutter speed are reciprocal, so when lens aperture is closed down, a longer shutter speed is required in order to collect the required amount of ambient light to produce a satisfactory exposure. Depending on the ambient light level, this might not present a radical problem, but often it will and you'll find yourself working with a shutter speed that is incompatible with handheld shooting. A tripod will solve this problem with completely static subjects, but, where there's movement, a slow shutter speed will lead to problems. However, in some situations, such as when shooting in natural light, a tripod may be impractical.

The next option to consider is to increase the ISO sensitivity of the camera, decreasing the need to use such a slow shutter speed. This is often the best way forward, especially as digital cameras are constantly getting better at producing top-quality images, even at ultra high ISOs. The use of a higher ISO may be sufficient to achieve a fast enough shutter speed to attain an adequate exposure.

Another vital factor to consider with macro photography is lighting. The ambient light itself may not be sufficient, so a macro-flash setup is the best solution. The sheer fact that you are positioning yourself and your photographic equipment in such close proximity to your subject creates a very high chance that, as you are taking the photo, you will be casting shadows onto your subject, which ►

“Unlock hidden patterns and textures in subject matter”

Increase sharpness

Focus stack shots to avoid blur caused by depth of field

Limited depth of field is one of the key problems encountered by macro photographers, so it's no surprise that the most dedicated among them take more extreme measures to combat this.

The basic technique involves shooting enough frames, each focused on different parts of the subject, so that every area of the subject is completely sharp in at least one frame. Ideally, this is done using a focusing rail to reposition the camera, rather than refocusing the lens.

Once you've completed shooting the frames, these can be combined into a composite image using specialist software like Helicon Focus or CombineZP, although Photoshop can be used effectively.

The downside to focus stacking is that it requires considerably more time and effort, so it's not suited for photographers who aren't willing or able to spend time getting perfect results. It's also not ideal for situations where the subject isn't static, though some macro photographers have overcome these challenges to get great results of moving subjects like insects.



FOCUS STACKED

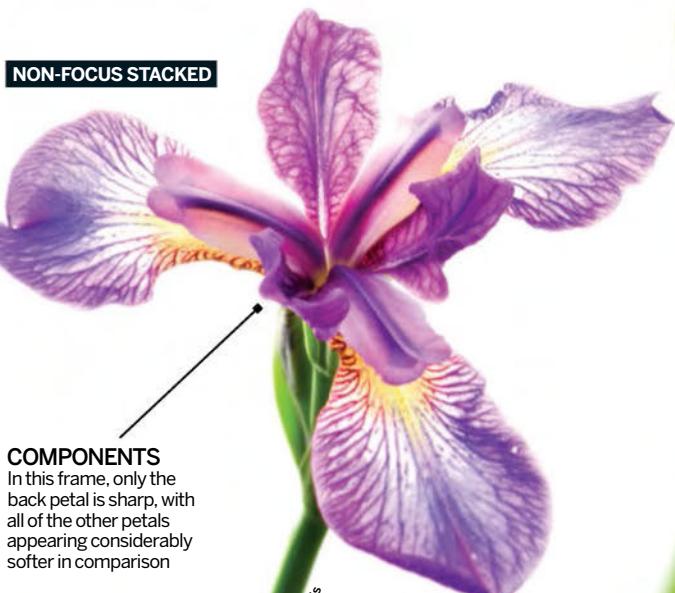
MOVE AND SHOOT

To shoot a sequence, focus on the front of the subject, then move the camera progressively without refocusing

USE SOFTWARE

Specialist editing software will pick the sharpest area of each image to produce an ultra-sharp composite

NON-FOCUS STACKED



COMPONENTS

In this frame, only the back petal is sharp, with all of the other petals appearing considerably softer in comparison

© Harold Davis



SHARP PETALS

By shooting multiple frames of the subject and merging them together, all the petals in the flower are in sharp focus

Pick the kit A selection of tools to aid your close-up captures

Macro lens

True macro lenses afford a full 1:1 magnification, enabling you to explore incredibly fine detail at exceptionally close quarters. It's important to be aware that some lenses will have the term 'macro' attached to them despite the fact that they are not really capable of a 1:1 magnification. Prices will vary considerably depending on the focal length of the lens.



Close-up filters

These transparent filters are available in a range of strengths and attach to the front of your regular, non-macro lens, functioning in much the same way as a pair of reading glasses do for your eyesight by effectively magnifying the subject.



They can be stacked and the cost is very low compared to buying a macro lens, but the optical quality is generally inferior.

Reverse lens

This involves placing a lens on the camera back to front, enhancing the close focusing capabilities of the lens. You'll need a reverse adaptor to achieve this, like this one from www.graysofwestminster.co.uk. A 50mm

lens is an ideal candidate optically, but whichever lens you use, it should ideally have an aperture ring, which modern lenses generally do not.



Set up for close-ups



REFLECTOR

If you want to throw light back onto your subject, you can use a reflector, as you would when capturing portraits

LENS LIMITS

Most macro lenses have a switch that enables you to restrict the focus of the lens to within a specific range

TRIPOD

This is a useful accessory for close-up images as it provides stability to capture sharp shots when depth of field is limited

LIGHT SOURCE

You could use flash, but a light table (used by film photographers to analyse slides) is great for backlighting



▲ EXPLORE THE DETAIL

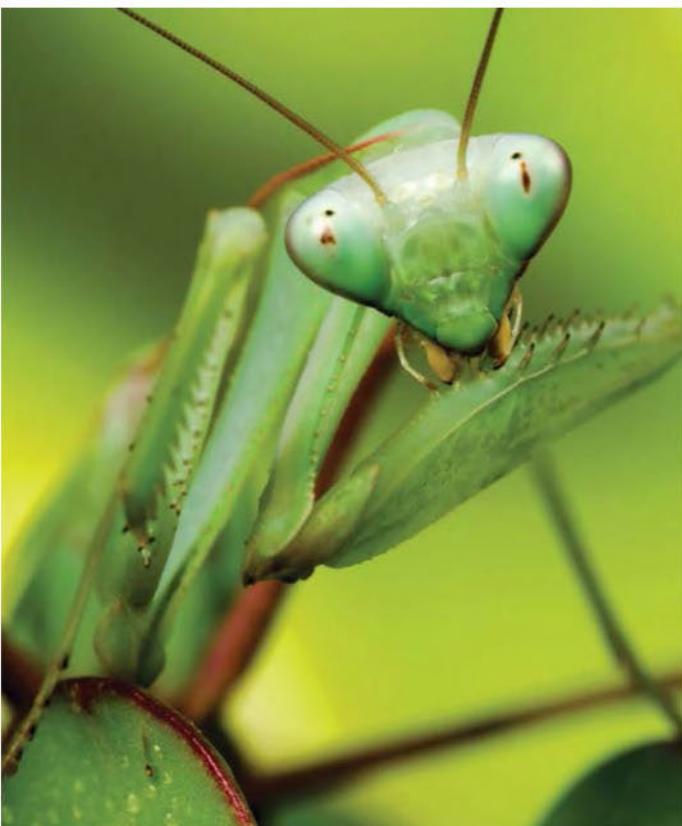
By backlighting a subject, you often emphasise details that are not necessarily visible to the naked eye, such as textures

◀ LIGHT UP SUBJECTS

Using a light-table is one great way of producing backlighting for any subject you shoot that is semi-transparent

► UTILISE FLASH

Using a macro flash for moving subjects helps with exposure, as well as enabling you to raise the shutter speed to freeze action



► negatively impacts both the quantity and quality of the light on your subject. The use of a specially designed macro flash enables you to ensure that the subject is evenly lit. A macro flash unit also brings the major advantage that, even at a narrow aperture, you can shoot using a faster shutter speed, lower ISO for increased image quality and without the need for a tripod.

If you do not have access to a macro flash kit or are wary of using it with a particular subject, be aware of the ambient light and the direction it is coming from and position yourself and your kit with this in mind. The use of a white or silver reflector will also assist you in avoiding harsh shadows.

Always remember that with macro and close-up photography, the textural quality on the surface of the subject you are photographing will be radically altered by a combination of the direction of the lighting, how soft or hard it is and how strong it is. This recipe is, of course, important for most areas of photography, but in the world of macro photography it's particularly crucial, as the patterns and textures that are often the entire focus of a macro image can be either greatly enhanced or virtually destroyed by the lighting being employed. For example, side-lighting will emphasise textures, while front-lighting will de-emphasise textures. For this reason, you will often find that the former is particularly ideal for macro and close-up photography but you should always aim to explore the impact of different lighting options on the subject that you are photographing. Try to be imaginative ►

Use a macro flash

Illuminate your shots with a dedicated unit for close-ups

One way of dealing with the problems presented by macro photography is to invest in a flash unit that's specially designed for macro. These are different from normal speedlights in that they fit around the end of the lens, so there's a lot less risk of harsh, unpleasant shadows being cast on the subject by the lens.

Macro flash units are designed to eliminate as many shadows as possible, which is why they either consist of several individual units positioned around a ring that fits onto the front of the lens, or of a circular flash tube, known as a ring flash.

With a macro flash, narrow apertures and fast shutter speeds can be used simultaneously, making them ideal for getting well-exposed macro and close-up images.



Advanced techniques



© David Southard

TIME YOUR IMAGE

Patience is very important for macro captures, especially with live subjects

GET CARRIED AWAY

Shikhei Goh's shot shows the unique drama that a macro shot can capture



© Shikhei Goh



◀ LIGHT THE SCENE

Both natural and artificial lighting can illuminate scenes, or even a combination



Tricks for nature macro

David Southard, a guide with Wild Arena (www.wildarena.com), discusses how to get the best results when capturing nature in close-up



© David Southard

“If you are trying to capture macro images of live subjects like butterflies or invertebrates, they are more than likely to be moving. At high magnifications, even relatively small movements are very noticeable in the picture and therefore much harder to control. A

100mm macro lens at its minimum focusing distance might need 1/250th or even 1/500th of a second to overcome movement issues. Here are my top tips to help you take great macro images of moving subjects.”



Block the breeze

Even subjects like flowers might move in the breeze, so use a simple, portable wind-break to help to reduce this movement. Even if you are out without any preparation, it is surprising what a difference it can make to balance a coat and camera bag in just the right place to stop the air moving around and disturbing your subject.



Use a tripod

A very simple and traditional way of stopping too much camera movement in any scenario is to use a tripod. There is a wide selection to choose from and many tripods – and tripod heads – have features designed to help users get into low and tricky positions for macro.



Increase the ISO

In the past, the quality that cameras produced at higher ISO settings was not that good, but newer models cope with ISO much better. If we increase the ISO setting, effectively making the camera more sensitive to light, we can achieve images that are correctly exposed using faster shutter speeds. It is worth experimenting with your own camera just to see what sort of quality that you can expect it to produce at high ISO settings.



Add artificial light

It is a basic principle that if your subject is bright, then you will be able to take images that are correctly exposed at both higher shutter speeds and lower ISO settings. Therefore, adding additional light can make all the difference. You might want to use flash systems, either conventional camera-mounted speedlights, or even specific macro units that direct the light much closer to the subject. There are also some great lightweight LED lights from manufacturers like Manfrotto that are very useful for adding extra illumination into a macro scene.



Timing matters

Even with very active subjects like butterflies, they will not be constantly moving at the same rate. Often if you watch subjects, there will be times when they are more restful and this will greatly limit the impact of motion blur in the picture. It might also be worth considering if the time of day will affect this. Most small creatures are most active when they are warm and therefore if you manage to find them early in the day they are more likely to be stationary while still warming up in the first heat from the sun.

► and creative when considering ways of lighting.

If you are working with a semi-transparent subject, such as a slice of fruit or flower petals, backlighting can produce interesting effects. For example, you could try placing your flowers or fruit on a light-table – a device used in the days of film for assessing slides – and then employing a reflector or LED light to provide subtle fill light.

Where possible, you should try to employ the same compositional values as you would with all other forms of photography. Try to find a composition in which lead-in lines and shapes are emphasised, so explore different angles while you are shooting and avoid settling on the most obvious or immediate solution.

Many of the best macro subjects require particular care and attention in order to capture the best quality images and to make either the shooting process or editing process easier on you. There is little point in capturing a close-up image of a flower or slice of fruit that doesn't look fresh and healthy, unless you are trying to create a particular artistic effect. For instance, keep an eye on how flowers in your garden are affected by the time of day and position of the Sun and try to photograph them at what you consider to be their optimum aesthetic moment.

Moisture is visually appealing in macro shots, so spraying your subject will make the resulting image more attractive. When photographing insects, keep in mind that they are affected by temperature, time of day and light (check out our pro tips boxouts on this page for more). Research into the habits and preferences of your subject can make all the difference between getting the image and missing it.

“Backlighting can produce interesting effects”

Quick tips for great insect close-ups



© Shikhei Goh

Shikhei Goh reveals his pro advice for capturing macro images of insects

- Use manual focus for accuracy.
- Make sure the camera is stable.
- Learn about the best time and place to capture your subject.
- Pay attention to the light.
- Use your flash or reflector wisely.
- Approach the subject carefully.
- Make sure to avoid using strongly scented perfumes or body sprays.
- Think and act fast to get the shot.
- The angle that you use is very important, so experiment with this.
- Don't harm the insect's ecosystem.

Advanced techniques

Master Monochr

TRANSFORM A VISTA

Embrace black and white and transform your colour captures into stunning monochrome masterpieces

ome

How to see in black and white, which subjects to shoot and the best way to edit your Nikon images with NX2

Black-and-white photography has really stood the test of time. Even after the dawning of the digital age, which brought us better colour and millions of megapixels, we continue to embrace the more traditional medium. It's even considered somewhat of a genre in itself although there are no real limits to the subjects you can shoot. So whether you photograph landscapes, portraits, fashion, weddings or even wildlife, monochrome can be modified and moulded to suit anyone's artistic style.

These days, digital photography offers a lot more creative freedom, so black and white has become much more accessible. Fortunately, we no longer have to select between shooting in either colour or black and white, as with digital you can do both, even simultaneously. The darkroom has also been updated thanks to the development of image-editing software programmes such as Photoshop. This gives photographers a lot more control over the conversion process when it comes to adjusting light, contrast and tonal range.

To help you embrace black and white again in your portfolio, we've put together this 12-page ultimate guide. Covering all you need to know about camera settings, composition and conversions, we'll take you step by step through the entire shooting-to-editing process. We'll also guide you through putting it all into practice with some hands-on shooting tutorials for landscapes, portrait and street photography. Follow along with us and find out how you can convert your lifeless colour captures into some stunning monochrome masterpieces.



Works best with
Nikon
D5500



From colour to black and white

It may sound strange to traditional black-and-white photographers, but shooting in colour is now essential if you want to get great black-and-white shots. In the professional industry, it's common practice for photographers to shoot their black-and-white images in colour first, with the intention to convert to monochrome later. The benefit here of course is that you leave your shots open to all options, so if it doesn't work in black and white, it's still a great colour image.

Top tip

In-camera, check your colour exposure on the back LCD, this will give you a preview of the image as a JPEG. Most cameras give you the option to preview in black and white for an idea of how the colour tones will convert.

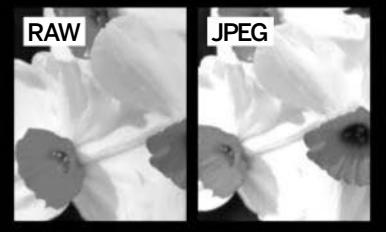
In order to do this successfully however, you'll need to ensure that you're shooting in RAW file formats first. This way, you'll be able to gather as much information in the scene as possible so that you're guaranteed great-quality conversions that provide plenty of detail across the entire photograph.

Knowing the type of colour shots that will convert well to black and white is key, and can be a real time-saver when it comes to editing. It's worth noting that vibrant shots with a lot of different colour hues don't always translate well to monochrome, particularly if certain tones appear similar when desaturated, such as blue and red for example. Surprisingly, it's captures that offer a muted colour palette that convert better to black and white, as you have a lot more control over the tonal contrast and ultimately the strength of the composition.

“Knowing the type of shots that will convert well is key”

Convenience or conversion?

Most digital cameras offer a built-in black-and-white shooting mode, which although can be convenient, isn't great if image quality is what you're after. This is largely due to the fact that these files are saved in JPEG format on the camera as opposed to RAW. It's better to shoot in Nikon's RAW format, NEF, and then convert your images using Photoshop or Camera RAW. You'll get much better control over the tonality. If you pack a second shooter, you can always take a test shot in black and white mode before committing to the shot you want to take.



FLEXIBILITY

The real trick to black-and-white photography is being able to shoot something that works equally as well in colour as it does in monochrome.



DYNAMIC SHAPES

Using shapes as features within a monochrome conversion makes your shots more dynamic. The almost layered effect also adds depth.



STRONG CONTRAST

Convert well contrasted captures to monochrome. Shots that are a little under or overexposed can also be rescued this way.

MUTED TONES

An image with a muted colour palette makes an ideal black-and-white conversion, enabling you to take control over contrast and tonal range.

SUBJECT MATTERS

Think carefully about whether or not the subject with the frame will suit being in black and white.



RED FILTER

The red filter/colour channel is ideal for enhancing blue or dramatic skies in a landscape photograph

- Lightens red/orange tones
- Darkens blue/green tones

Top tip

Although colour hues can have a considerable effect on the outcome of your image, don't get caught up in the rules when it comes to converting. Experiment with all of the colour channels for creative results.

Converting with channels

When composing a black-and-white image in colour, it's important to pay attention to the hues that feature within the frame. It's these colours that are ultimately responsible for the tonal range within your black-and-white image.

Before digital technology, black-and-white film photographers would rely on colour filters to enhance or adjust specific tones and contrast

within their shots. These days, we can do largely the same thing, using image-editing software. However, understanding how these filters and ultimately colour channels can affect your image is crucial. This is particularly important when you're converting a colour capture to monochrome, or even looking to strengthen a black and white composition while shooting.

BLUE FILTER

Adjusting the blue filter will bring out warmer tones. This is fantastic if you're shooting a sunset scene or want to lighten a dark-blue sky

- Lightens blue/green tones
- Darkens orange/red tones



▲ Convert a colour capture using channels



GREEN FILTER

The green filter, like the blue, can be used to enhance warm tones in the scene you're shooting

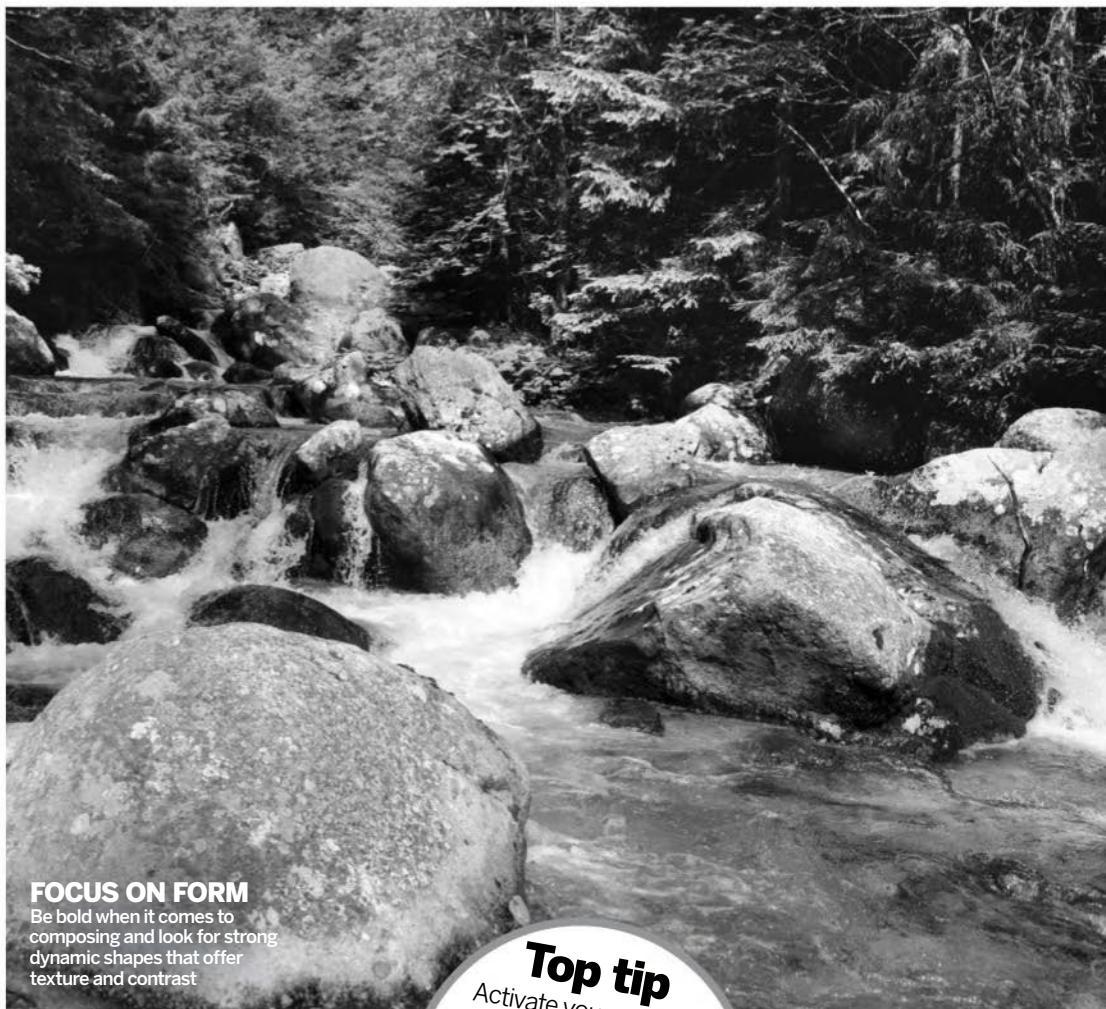
- Lightens blue/green tones
- Darkens orange/red tones



FOLLOW THE RULES

Compositional rules can be incredibly useful when framing for black and white. Use the rule of thirds or lead-in lines to help strengthen the structure of a shot

Composition rules



FOCUS ON FORM

Be bold when it comes to composing and look for strong dynamic shapes that offer texture and contrast

The strength of a black-and-white image lies in its composition. Unlike with colour photography where vivid hues can command attention, black-and-white captures rely heavily on their content in order to engage viewers with the frame. Using a few key compositional pointers can go a long way in helping you to strengthen the structure of your black-and-white shots. Regardless of whether you're shooting landscapes, portraits or even still life.

One of the most popular compositional rules for monochrome photography, which also applies to colour, is the use of lead-in lines. Use them to enhance or even create an illusion of depth that can then guide the viewer's gaze through the entire frame. Lead-in lines don't necessarily need to be straight either, think creatively when composing for black and white and look for diagonals or even curves.

For more dynamic compositions when photographing architecture, landscapes or even abstract forms, focus on framing bold shapes that will noticeably stand in

Top tip
Activate your camera's grid lines to help you compose your black and white shots in-camera. These are particularly useful when framing a photograph using compositional rules.

the foreground or background of your shot. This will help to add structure to your monochrome image and, in good light, can offset contrast nicely too.

Photographing textured surfaces

is another great compositional guide for black and white. Ideal if lighting conditions appear a little flat, you can include textured surfaces within the frame to naturally increase contrast areas and add an additional visual element to the frame. This is particularly important if you're shooting abstract subjects, but can also be applied to portraiture with weathered skin and even street photography as brickwork translates incredibly well when converted.

Having a good idea of what you want to achieve, or even being able to envision the end result is important when framing for a black-and-white image in colour. This will not only guide you during the conversion process but will also help when it comes to selecting the right camera settings for the best exposure.

“Use lead-in lines to create an illusion of depth that can guide the viewer's gaze”

Things to look out for in monochrome

1 LEAD-IN LINES Encourage the viewer to engage with lead-in lines to guide their eyes around the frame.



2 SUBJECT Distinct subjects that stand out can work just as well in black and white as they do in colour.



3 LIGHT Contrast is key to adding depth, so ensure the light and your exposure settings are spot on.



4 TEXTURE A great way to enhance the feel of depth in a black-and-white image and bring out contrast.



5 RULE OF THIRDS The rule of thirds works excellently for monochrome. Use grid lines for best results.





Editing in B&W

Nikon makes its own image editing software which is compatible with NEF files and can make editing your monochrome images that you have taken on your Nikon a breeze. It's called Capture NX 2 and it's designed specifically to help you edit the photos you've shot with your Nikon camera. It can also help you to create advanced creative effects like selective colour, in which a single colour is picked out in a black and white image. One of the most famous examples is the girl in the red coat from Schindler's List. Selection and Colour Control Points allow for granular control of your image, so that you can apply masks and other effects to some areas but not others. Capture NX 2 can be purchased for £139.95/\$179.95.



Exposing correctly

While it is always important to expose your images correctly, when you are planning to convert your images to black and white this is particularly vital. A monochrome image relies heavily on the tonal range in the scene. If you underexpose the image too much, areas of the image that should be various shades of grey will 'block up' as dense, pure-black shadow. If you overexpose the image too much, you risk losing highlight detail, something that never looks great but can be particularly unappealing in black-and-white scenes. One of the joys of black and white photography is being able to dodge and burn in the digital darkroom so you need to give yourself room to play with in your editing software, which means capturing images that are neither too dark or too light.

Scenes with a high degree of contrast (with very bright and very dark areas) always present a challenge in terms

of exposure and this is the kind of scene most likely to cause your camera's metering system to get confused.

You can decide which area of the scene is the most important for your final image and expose accordingly. Alternatively, you can shoot two separate exposures (one with the shadows in mind and one for the highlights) and merge them later.

One more thing to be aware of when you are exposing your images is the role of the ISO setting. If you find that you need to brighten the image up in post-production you'll generally notice a lot more noise in the shadow areas of the image if the shot was captured using a higher ISO (e.g. ISO 800 or 1600). As it's not always possible to shoot at a lower ISO, it's best to adopt a policy of 'exposing to the right'. Take a look at our guide to histograms to see how this works.

"A monochrome image relies heavily on the tonal range in the scene"

Histograms

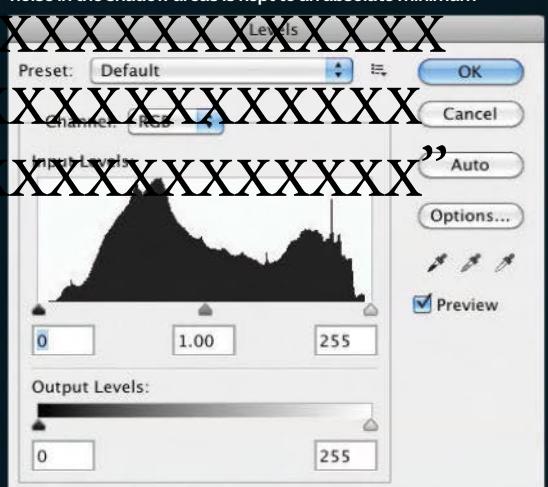
Getting to grips with histograms is vital for B&W



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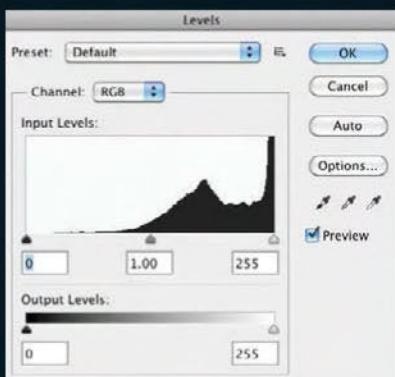
◀ CORRECT HISTOGRAM

This histogram is ideal as there is no clipping (represented by sharp spikes) at either the highlight or shadow ends of the figure. The histogram is biased towards the right slightly, ensuring that noise in the shadow areas is kept to an absolute minimum.



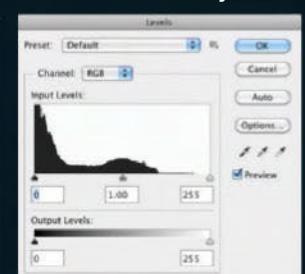
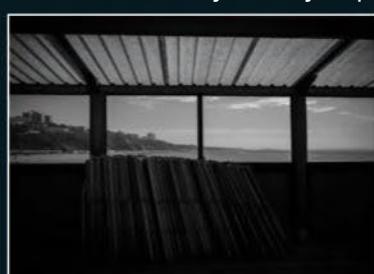
▶ OVEREXPOSED

This histogram shows the result of overexposing the image. The information is crowded into the far right-hand side of the diagram with a sharp spike. Some of the highlight detail may be recoverable but much of it will be lost.



▼ UNDEREXPOSED

This histogram shows the result of underexposing the shot. The information is clustered towards the far left-hand side with a sharp spike. Some shadow detail will be recoverable but is likely to be noisy with poor detail and colour accuracy.



Portraits

Portrait photographers have worked in black and white since the dawn of photographic time. From Julia Margaret Cameron to David Bailey, photographers have used monochrome to capture portraits with style.

Black-and-white portraits can look either modern or classic with equal success. The clear advantages of shooting without colour include the ability to remove distracting elements and smooth out uneven skin tones and blemishes.

When there's no colour to worry about, you are free to push the contrast to its extremes and create a very wide range of effects. The absence of vibrant hues also means that it's easier to capture impromptu portraits when the subject's clothing doesn't have the required tones or the surroundings aren't ideal.

However, it's important to remember that shooting in black and white doesn't allow you to take your eye off the ball in terms of planning and preparing a portrait shoot. Simple, fairly plain clothing with a relatively small range of tones will usually work best for black-and-white portraits. It's also important not to expect your portraits to automatically look like the work of one of the greats simply by converting it to black and white. It's even more important to consider your subject's pose and expression, as the best black and white portraits will almost always be very strong in these respects.

Be sure to pay attention to the lighting as much as you can, because in black and white the contrast between well-lit areas of the frame and areas of shadow is always accentuated.

MODEL MONO

Black-and-white portraits have the potential to look really striking, but the right lighting and pose is required



Top tip

The subject's pose and expression are especially important when there is no colour to make the shot stand out.



BACK IN BLACK

Simple clothing works well in mono – we asked our model to wear a classic leather jacket



SIMPLE SETUP

Great black-and-white portraits can often be achieved with minimal lighting. Here, we used just one flash with a softbox



Landscapes

Although the iconic landscape photographer Ansel Adams worked almost exclusively in black and white, landscape photography is often associated with colour.

One of the main inspirations for capturing landscapes is the appeal of the warm, golden colours produced by late afternoon and early morning light, or the glow of a gorgeous sunrise or sunset.

However, landscapes also offer a wealth of textures, shapes and patterns that lend themselves perfectly to black and white. Without the distraction of colour, the landscape is both simplified and endowed with an appealing timelessness. Black-and-white landscapes taken today can look little different to the photographs taken in the 1940's by Ansel Adams himself.

However, in some respects, black-and-white landscape photography can present greater challenges than shooting in colour. Without a beautiful blue sky or warm orange sunset to rely on, the composition of the shot itself becomes even more important. With this in mind, it's vital that you take extra time to carefully assess each and every element of the scene before taking the photograph. Although all the elements of the scene need to be in harmony in all landscape images, the final photo really won't work at all if this isn't achieved with a black-and-white scene.

It's also worth remembering that the time of day still counts with black and white landscapes. Images taken at the beginning and end of the day will have much softer shadows than photos taken around midday with the sun at its highest.

MOODY GREYS

Black and white can be used to create atmospheric, brooding landscapes with dramatic skies and strikingly simple elements

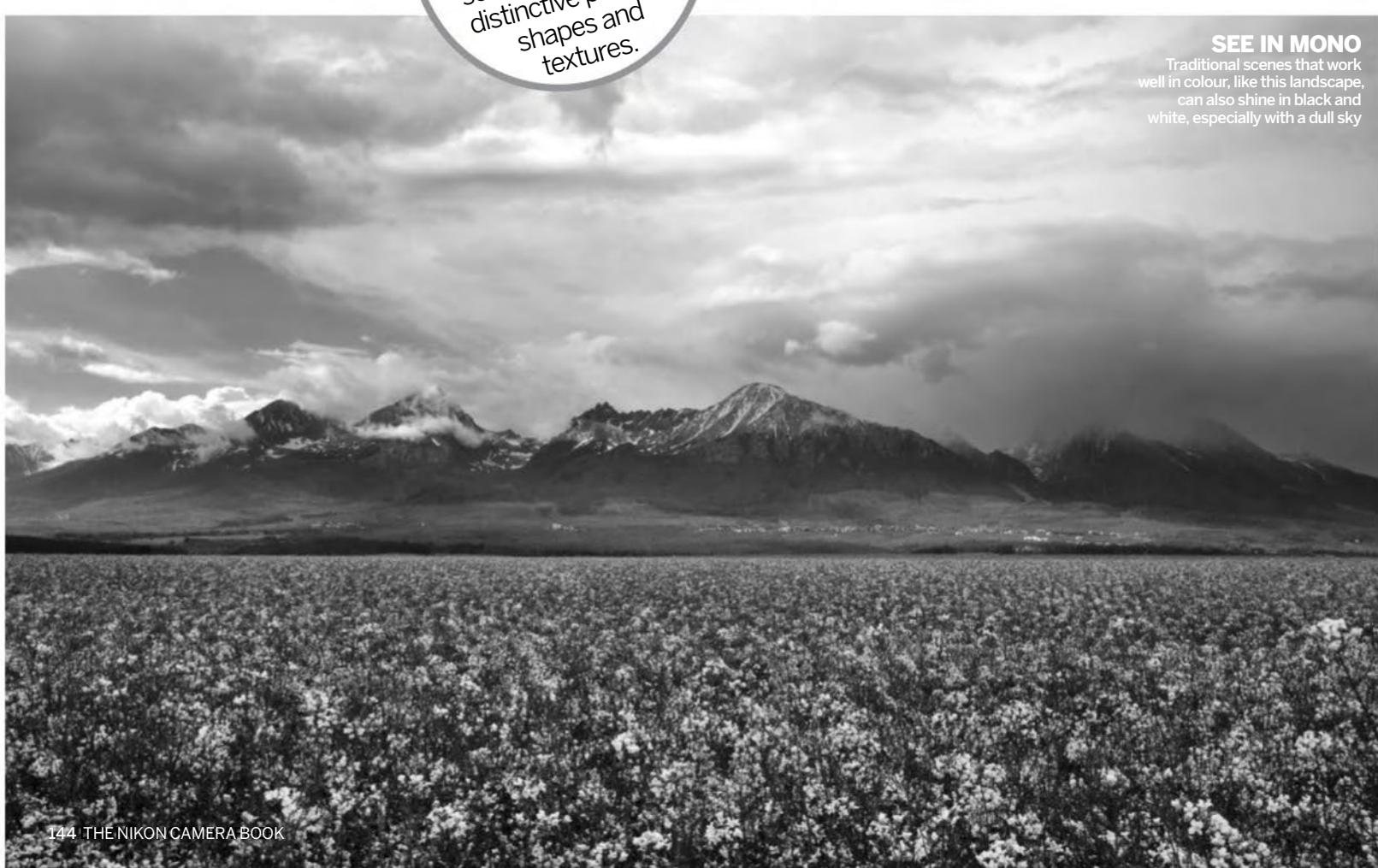


Top tip

For the best black-and-white landscape shots, seek out the scenes that include distinctive patterns, shapes and textures.

SEE IN MONO

Traditional scenes that work well in colour, like this landscape, can also shine in black and white, especially with a dull sky





“In some respects, black-and-white landscape photography can present greater challenges than shooting in colour”

Get the perfect monochrome landscape photo



1 COMPOSE Pay close attention to your composition and keep an eye out for anything distracting in the frame. This is particularly vital for great black-and-white landscape images in which all the elements have to work together perfectly.



2 TRIPOD Using a tripod close to the ground means you can make the most of lead-in lines such as the walkway along the pier, as we've used. Wooden boards like these have a texture that's really appealing when converted to monochrome.



3 SETTINGS Opt for a long exposure to make the most of movement in the clouds. This helps to keep exposure as simple and uncluttered as possible. Use a narrow aperture like f16 to get the maximum depth of field in your image.



Street photography

Street photography became popular with the rise of 35mm and other portable-camera systems. Henri Cartier-Bresson's classic black-and-white reportage images still influence street photographers today and this is a field of photography where monochrome images far outnumber colour shots. Black and white offers street shooters instant artistic and practical advantage, and this element of the medium harks back to the tradition of photojournalistic images that for many years were exclusively black and white.

The very nature of street photography dictates that the photographer cannot control the range of colours within the scene and in many situations this could result in a much less appealing image. Black and white's ability to simplify the image provides a way of creating graphic, captivating images.

In terms of subjects for this type of project, you should aim to keep your compositions as simple as possible. This isn't necessarily easy on busy and crowded streets, but is vital for successful shots.

Very often, the best images have a degree of anonymity, without any faces, so keep a look out for hurried feet or hands held pensively behind the back. A bustling shopping centre or high street can be a daunting place at times but keep watch for moments of human interaction and affection, as these can look even more striking and emotive in a public setting.

Top tip

Shoot in RAW but set your camera's picture control mode to black and white to view monochrome previews on the LCD.



Shoot everyday life in captivating monochrome



1 HIP SHOT Shooting from the hip is a popular technique among street photographers as it allows them to take candid shots without people paying attention to the fact that they are being photographed, although the results can be hit and miss unless you are used to this method.



2 MONO PREVIEW Shooting RAW and setting your camera to its monochrome mode allows you to see a black-and-white version of your image on the back of the camera, which is really useful.



3 SETTINGS Use a fairly narrow aperture of at least f8 in order to get a decent amount of depth of field in the shot. Also ensure that the shutter speed you use is reasonably fast to ensure sharp shots. If necessary, make use of a higher ISO setting to compensate.



TELLING A STORY

Black and white has a classic photojournalistic feel to it and works perfectly on the street

Editing B&W

Converting an image to black and white can be as simple as changing from RGB to Grayscale mode. However, if you are serious about getting strong monochrome images it's worth taking a little bit more time and trouble. Fortunately, there are lots of other ways of changing a colour shot to a black and white image in Photoshop and they are very powerful too. When converting to mono, you need to pay close attention to how individual colours are responding as this can make or break the final image. Another important point to be aware of is contrast, which often needs to be more dramatic in mono.



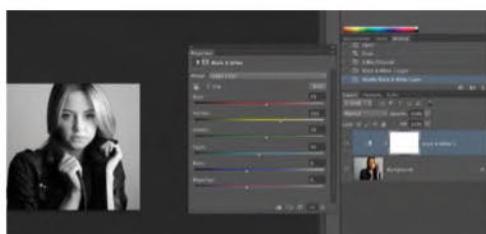
Before

This is a strong portrait but the limited colour palette and monochromatic feel lends itself to a black-and-white conversion

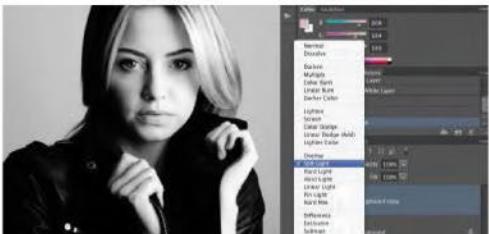
Perfect monochrome edits



1 LAYERS There are a number of ways of converting images to black and white in Photoshop, but the dedicated Black & White adjustment layer is the and most versatile.



2 PRESETS If you are new to black and white there are a number of handy presets to get you started, but you'll achieve the best results by tweaking the six colour sliders to suit the image.



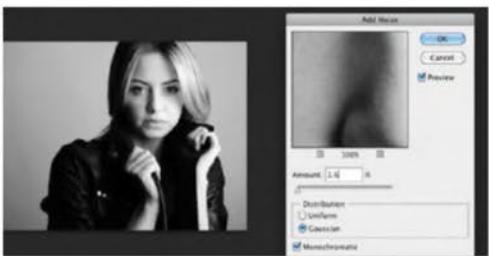
3 DUPLICATE Click OK and then go to the bottom of Layers palette and duplicate the background layer that you need. Now change the blending mode of Layer 1 to Soft Light.



4 BLEND Changing the blending mode to Soft Light greatly improves the contrast. If this is too much, simply lower the opacity slider in the Layers palette for a more subtle look.



5 ADD NOISE The conversion is almost complete now, but in order to make the image look artistic you can add a little bit of noise for a cool film effect to your final photo if you wish.



6 FILTERS Go to Filter>Noise>Add Noise and ensure that the Distribution is set to Gaussian and that the Monochromatic box is ticked. For best results us a low value in the Amount slider.



CREATE A SCENE

Andy Grimshaw's shot of whisky illustrates how important styling is to the still-life genre. He's complemented the product with low-key lighting, and included the barrels as a subtle backdrop

© Andy Grimshaw

Stylish still life

The pro techniques and tips you need for shooting stunning products and arranged scenes

As far as photographic practices go, there aren't many that date back further than still life. Despite being one of the oldest genres, however, the fascination for capturing arrangements of everyday objects is still a viable photography profession, and unlike image making that relies on the weather for success, still life is easy to try at any time of the year.

You don't need a high-end studio to get started, and professional results can be achieved with an understanding of subtle lighting techniques and a few simple pieces of kit. Better still, the creative content is completely your choice, and definitely shouldn't be limited to just fruit bowls and flowers. With far fewer variables out of your control, the real challenge lies in capturing the form of your chosen subjects in an interesting and engaging way. Magazines and websites are always on the lookout for enticing product shots, so it can be a lucrative business to get into, but there's also a lot of scope for getting creative with fine-art still life.

Over the next few pages you'll discover how to create an affordable mini studio at home, the best ways to compose a scene and arrange objects, as well as illuminating them for the most stylish results. The most successful still-life photographers make

pictures rather than taking them, coupling a refined sense of lighting with strong compositional skills. Discover how to develop these qualities to make the most of your still-life shoots. The whole is more than the sum of its parts' is a common expression, but it's one that applies to the still-life genre. Though images can be used purely as a functional recording of an object or scene, modern trends have seen photographers pushing the genre, using striking colours and compositions to evoke mood, set a scene, or just please the eye. David Parfitt (www.davidparfitt.com) is one of these stylish image-makers – an advertising pro who's shot for impressive clients like L'Oréal, Condé Nast and John Lewis. "All my work is studio-based, [and] I'm starting with a truly blank canvas."

However, contrary to what you might think, you don't need a studio or an expensive setup to make a start with still-life photography, and it's possible to get good results shooting from a home location. In the kitbag of the pros, you'll often find large-format film cameras with digital backs attached. Parfitt uses a Sinar P3, a small bellows-view camera with a Sinar 86H digital back, allowing for "fine adjustments to the angle of the plane of focus and to the perspective." The disadvantage of these models is the high price ►



Prepare for still life



Photographer Phil Sills shares his expert advice for shooting stylish still-life imagery

www.philsills.co.uk

Bio: Sills has over 20 years' experience photographing in the advertising industry, working for high-profile clients such as Lexus, British Airways and Lipton.

How do you approach the styling and composition of a still-life scene?

The subject is hero every time. I like simplicity in approach. I always go for the angle on the subject as the first job to get right, and the main light source is the next-most important thing.

What lighting kit would you recommend for those starting out with still life?

You need to think about what images you are likely to create. If catching movement is going to be your thing then lighting has to flash. Start off with three or four mono blocks, with a softbox, a strip softbox and a couple of ways of controlling the light with grids or a snoot.

Do you have any favourite lighting setups?

I try not to be repetitive. I try to maximise inherent qualities in the object and keep the options open with a hope to really discover something interesting and new. Saying that, I favour shooting objects in isolation so they can be lit properly, placing objects onto a small plinth rather than a flat surface.

Phil Sills' top tips for still-life shooting

- **Pre-visualise** Plan out your images on paper first. It's really important to know what you are trying to achieve before a shot is set up.
- **Focus on technique** Don't get caught up in the technology rat race. What will get your work noticed are your images, not your camera.
- **Create a concept** Keep ideas simple by thinking of the key phrase you are trying to communicate and work on showing that through your composition, props and lighting.
- **Experiment** Never be afraid to try something out, even if you make mistakes [along the way].
- **Find inspiration** Be sure to look at what other people do, however don't copy their work. Find a way to make the image your own.

tag and a specialist nature that makes them hard to source, and there's no reason why you can't use your existing DSLR for full manual control over your images. A tilt-shift lens is an investment worth considering, offering you a great degree of control when it comes to depth of field and perspective. A sturdy tripod and reflector are necessary, and you'll need a dedicated area to shoot, such as a dining-room tabletop.

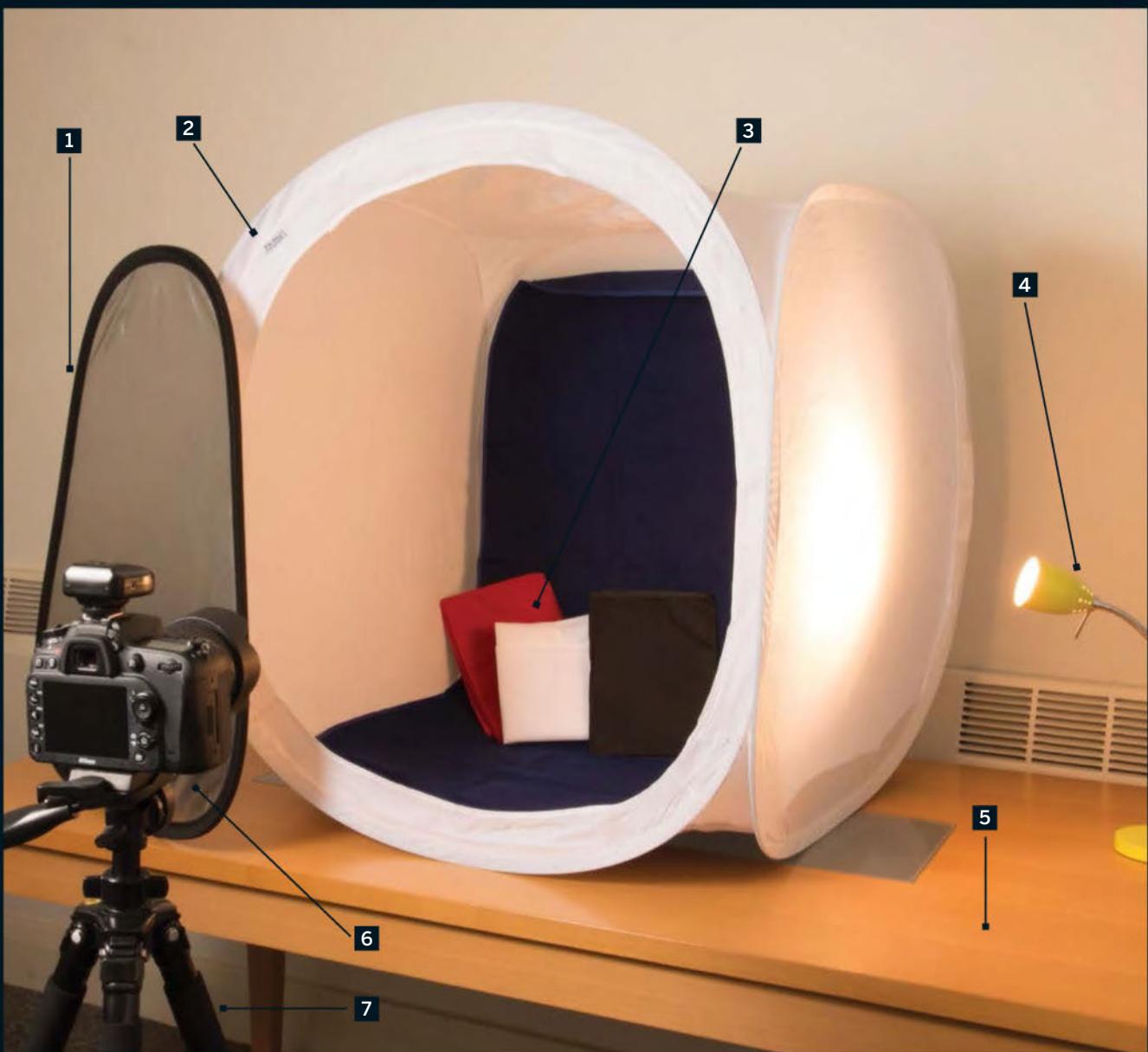
Choosing what to photograph should be your next step, and still-life scenes usually feature a range of objects along a similar theme or colour palette. Consider your background carefully, including architectural features, such as a window frame or door, if these add direction to your composition. Drapery can look cliché, but a tone that contrasts with the subject will add depth and interest to the frame.

If you're shooting for a client, the chances are you'll have your subject provided for you, and you need to make it look as attractive and enticing as possible to the viewer. As a successful London-based photographer, Andy Grimshaw (www.andygrimshaw.com) knows commercial product and still-life shooting cross over a lot. "They're both about crafting lighting and

KEY SETTINGS FOR INDOOR STILL LIFE

Generally you should be using a low ISO of around 100, narrow aperture such as f16, and a tripod to keep the images sharp. White balance is a subjective choice, but daylight is the most neutral.

composition," he states, and he often makes use of household items such as Blu-Tack, tape and string to craft a scene together. A well-arranged scene generally avoids symmetry, but it's also vital to find an angle and perspective that displays objects to their full potential. "If the shoot is to a brief, the client will be looking to accentuate their product's features, and this often determines the composition. If I'm working on my own work I will probably have thought about how I want the final image to look in terms of lighting, colours and composition." Grimshaw solidifies his ideas by sketching out the composition and lighting setup before the shoot, refining it as he goes. He also admits to working with as few lights as possible. "The Sun only creates one shadow so to create a natural look I think it's ►



Create a mini studio

Use a tabletop setup for stylish still-life projects at home

1. REFLECTOR

When you need to bounce light back, angle a reflector to fill shadowed areas. Look for one with both silver and white surfaces.

2. LIGHT TENT

These inexpensive translucent structures will light your subjects evenly and cut out reflections. Ensure the tent is as crease-free as possible.

3. COLOUR BACKDROPS

Fabric backgrounds often come included with a light tent, but you can use material such as paper or crushed velvet. Smooth out folds before shooting.

4. DESK LAMP

A small lamp with a flexible head is ideal, enabling you to direct the light. Use two to add foreground and background lighting, and boost exposure on dull days.

5. TABLETOP

Any large, flat surface will work. Avoid positioning your table against busy backgrounds such as wallpaper. Opt for plain, light walls that'll help reflect light.

6. DSLR

A camera with full manual control over exposure, focus and white balance is best for still life. Use the self-timer mode to avoid camera shake when you press the shutter.

7. TRIPOD

A sturdy model is essential to avoid motion blur. Use a flexible ball head to vary the angles and heights for creative compositions.

Light reflective surfaces

Learn how to photograph shiny objects such as metal and glass



1 SET UP THE SHOT Arrange your objects to shoot on a tabletop setup. Use a large, diffused light source, such as a softbox, and move it so that it is directly above your tabletop scene, lighting it from above.

2 CHOOSE YOUR SETTINGS Select a low ISO on your camera and an aperture of f16 for a sharp result. Place the tripod, attach the camera and make sure your reflection can't be seen in the object.

3 POSITION THE LIGHT Move the light into several different positions for varying results. Adjust the light intensity so that it is to your liking and use the white panel of a reflector to fill in any shadows.



Advanced techniques

essential to have one main light source. First work out where you want your main light to come from and where you want the shadow area to fall, as well as how hard or soft you want the illumination to be." He works with the main light first, then adds in fill lights to see what effect each creates, also "reflecting light back in to the shadow areas with a handheld mirror."

Pro photographer Phil Sills also has plenty of experience illuminating objects of all shapes and sizes, and knows how important it is to light for the shape and form of your subject. "Whether [it's] technically correct or not to say, I am always looking for the right angle of dangle. Front lighting is great for strong colour, but then your subject won't have any form." Interesting lighting includes light and shade, and Sills notes, "a dynamic light will almost always be the one from the back that wraps around the subject and brings out texture. Depending on how much contrast you want, light can then be added from the front."

For him, it's not so much the kit that is important, but what you do with it. "A few small tungsten heads will get a new still-life photographer under way. They will be cheaper to buy than flash units, and the beauty about tungsten is you can see what you are doing when moving the lights around. Get a couple of spare stands and some flexible lockable arms to put flags in and that should be enough."

Like all image-making, clever lighting techniques are key to achieving an impressive end result, and it's important to remember that the brighter and smaller your light source, the stronger the shadow it'll generate. If you're using a desk lamp, you can easily soften the light. Use the white, diffusing surface of a reflector and place it in front ➤

Arrange your scene

Select and place items to create a visually engaging shot

Still-life imagery might look as if they are just simple collections of items, but photographers carefully consider the arrangement and choice of subjects in their scenes to create mood and interest. It can be useful to first sketch out your composition ideas. When searching for objects to include in your setup, look for different sizes and shapes, interesting textures and a variety of light values that you can work with. Try to avoid symmetrical placement, as the composition will be much more engaging when the interval between items is uneven. Create depth in your frame by placing some things closer and others further away from the camera.



Secrets to great shots

How pro David Parfitt took this image

1. NARROW APERTURE

Still-life compositions generally work best when the whole scene appears sharp. Use an aperture of f16, and focus manually for pin-sharp results.

2. SIMPLE BACKDROP

This background complements the subject rather than distracting the viewer's eye from it. Choose backdrop materials with a similar colour and style to the object you're shooting.

3. DIGITAL BACK

Parfitt has used an electronic image sensor attached to his Mamiya film camera, a method favoured by many studio photographers to capture incredibly high resolution.

4. CONTINUOUS LIGHTING

Using continuous lighting over flash means that you can see the effect of light adjustments instantly, tweaking their balance and position until they're perfect.

LOW-KEY LIGHTING

Arrange a dark material behind your subjects, eliminate as much of the ambient light as possible and position a flashgun to the side of your setup. Set a low power, an ISO of 100 and a narrow aperture. Tweak the settings until you reach the desired exposure.



of the light source to immediately see the shadows soften. You can diffuse the illumination by lighting through various materials, such as Perspex, or even baking and tracing paper.

There is no one-size-fits-all lighting solution, and each setup should be tailored to show off your focal point. Subjects with interesting edges look great when they're lit from behind, and you can highlight the shape of your subjects by using off-camera flash. Position a flashgun behind the subject to create a rim-light effect, pointing the unit directly at the camera, but avoiding lens flare.

Painting with light using a torch and long exposure is another effective way to add dynamic studio-style lighting to your shots, and isn't just a technique that's best used at night. Set your camera to manual mode with manual focus, and remove all ambient light from the room by turning off lights and shutting curtains. Press the shutter and use short bursts of the torchlight to cover all faces of the subject. It may take a few attempts to get the right exposure, but a well-lit final image will be packed with contrast. If you want to experiment even further, use different-coloured LED torches and build up layers of tone.

Subject matter is key to stylish still-life photography, along with paying careful attention to lighting and a clean and balanced composition. Dig around second-hand shops to pick up interesting and quirky objects that have the patina of old age, and experiment with as many lighting styles as you can for each scene you craft. Grimshaw studied any and all photography books he could get his hands on to see what kind of images he liked, but "inspiration is everywhere – it could be anything from dappled lighting reflected off a car, to making jelly with the kids, you just have to look." There's no excuse for not having a go at still life.

►► FIND A PERSPECTIVE

Parfitt studies the object he's going to photograph from all angles before reaching for a camera

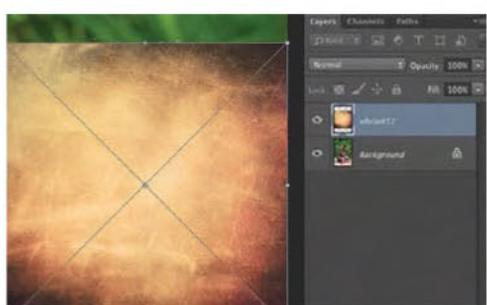
◀ FRAGRANCE FORMATION

This well-lit product arrangement by David Parfitt was taken using a Sinar P3 camera, a bellows camera with a digital output attached

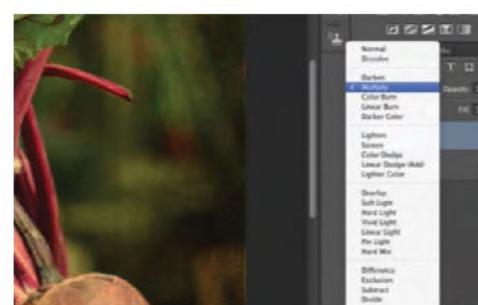


Create textured images

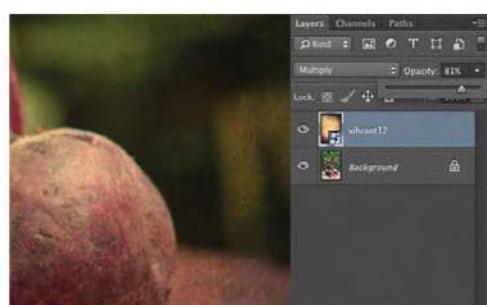
Enhance still-life shots by blending layers in Photoshop



1 Open your layers Drag and drop your texture on top of your main image. We used vibrant12, downloadable on FileSilo. Scale it according to how you want to overlap the shot.



2 Set the blending mode Trying out various blending modes sees different effects, but the most useful is Multiply. This shows the original colour palette while slightly darkening it.



3 Change the opacity If the texture obscures your original image, adjust the Opacity of this layer by using its slider to make the effect as pronounced or subtle as you like.



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Get the best from
your NEF files

“Few things in
photography are as
awe-inspiring as when
the clouds part and
sunlight seeps through”



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Add light rays



The essential guide to Editing

Use Photoshop to edit and transform your Nikon images from average to awesome in the post-production phase of your project

Over the years, Photoshop has become a hugely important part of the photographic process. More and more photographers now rely on this software instead of using the traditional on-camera settings, even though Nikon offers its users all the control they could want. This is because in the post-production phase you can push your images to the next level and achieve fantastic creative results that just couldn't be captured on your camera alone.

Many factors can let down a photo-shoot, be it the weather, poor equipment or a shaky hand, but all of these flaws can be edited out and corrected. When using Photoshop you only need to master a few key techniques to ensure that every editing project looks professional and your images perfect.

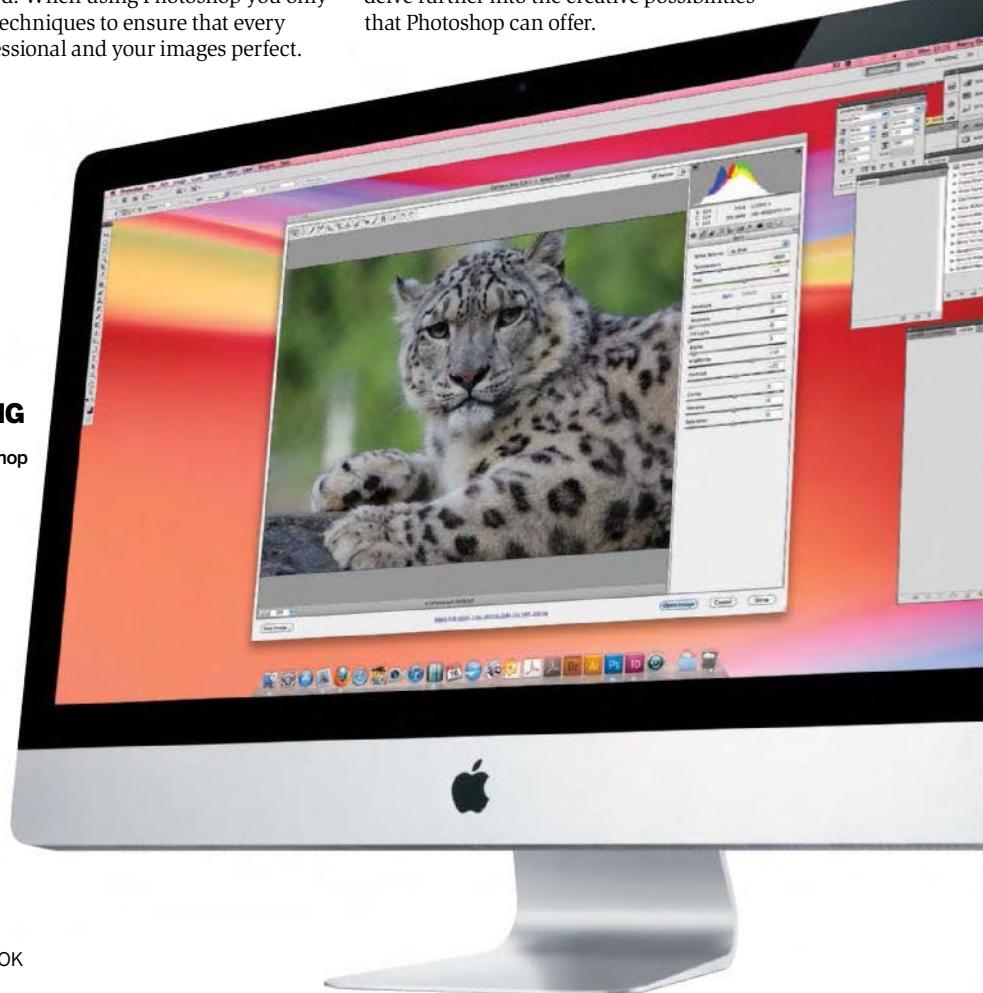
Once you have these skills mastered, you can really start to develop and learn to hone your creative skills.

Over the next few pages we'll run through all of the key Photoshop tools and features that you'll soon find yourself unable to live without. Follow along to learn how to achieve the best photographic-style effects such as retro and cross processing, high-key summer lighting, textured overlays and even how to create polished high-end advertising pieces.

We'll also cover all of the key features and tools you'll need to get started. Read on, whet your appetite and get inspired to delve further into the creative possibilities that Photoshop can offer.

► CREATIVE EDITING

We'll show you everything you need to get creative in Photoshop for expert results



Editing your Nikon images

After

This shot is now
hugely improved,
after just a few
easy tweaks

Before

This image looks
dull and flat, and
in need of some
editing attention





Finding a style

Getting your photography work recognised is vitally important as a photographer. Your images need to stand out from the overwhelming amount of photographers who are now displaying their work on the web and on social networking sites. Developing a unique and easily recognisable style will ensure that you get the coverage you truly deserve, and mastering Photoshop will ensure that this is the case.

On this page we'll be covering a selection of current styles that are hugely popular both creatively and commercially. Building on your Photoshop skills and then transferring what you've learnt into your work will allow you to develop a style that you can easily apply across your entire portfolio. The style you choose to work with will need to suit the theme of your images, so don't be afraid to experiment with some different effects but

also keep in mind what message you're trying to get across to the viewer.

The effects applied to your photos can be as wacky as you choose, but your images don't need to look overly Photoshopped to get great end results. Even small subtle tweaks like the high-key lighting effect can really make your portfolio stand out against the competition.

The key to finding a style is experimentation. Don't be too constrained, have fun and really explore what Photoshop has to offer. Combining Adjustment Layers and Layer Blend modes can produce stunning end results without hours spent staring at your computer screen. Get to grips with the few essential Photoshop functions explored here and you will realise how many amazing effects can be created quickly and easily - regardless of your image-editing skill level.



BICYCLE BEFORE

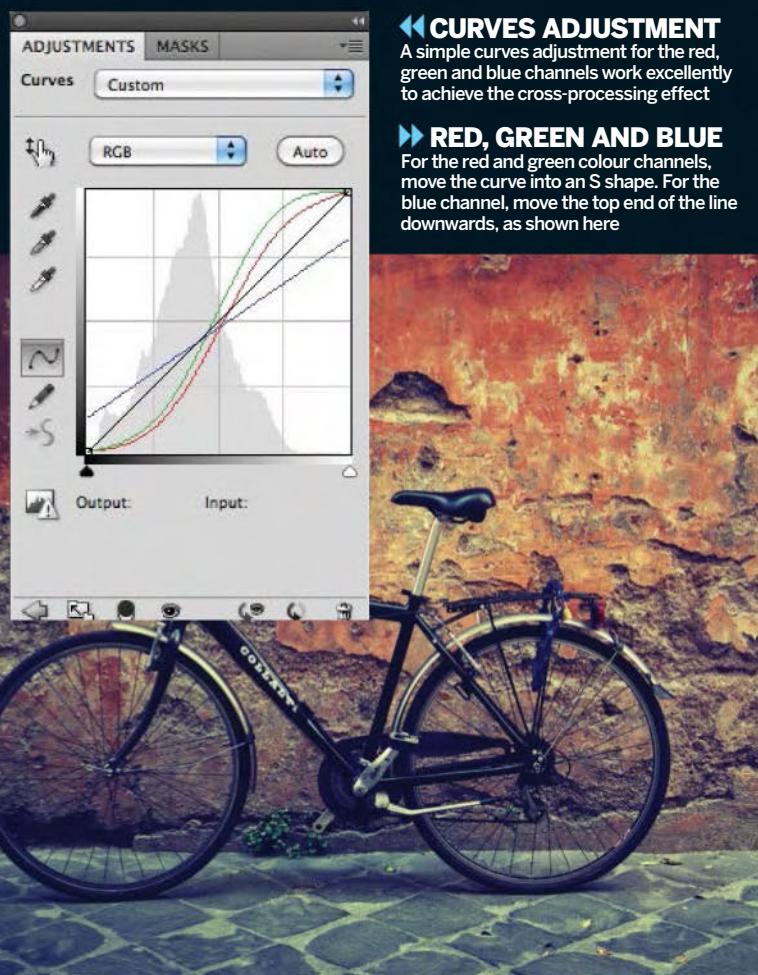
One photo, four distinctly different styles. Experiment with them all and see what suits your style of working best. Who knows, you may discover a Photoshop trick that transforms your entire portfolio!

Creative cross-processing

Cross processing is a simple technique to master, involving increasing the image contrast and dramatically altering the colour balance.

To do this we will use a Curves Adjustment Layer (Window>Adjustment>Curves). Click onto the RGB drop-down menu and choose Red. Click onto the line adding two anchor points.

Now move these to create an S shape. Repeat this for the Green channel then swap to the Blue channel. Don't add any anchor points; just move the top-end downwards. The bottom left anchor must point up to enhance the blues in the shadows. Play around with these settings. Once happy, set this layer's blend mode to Color.



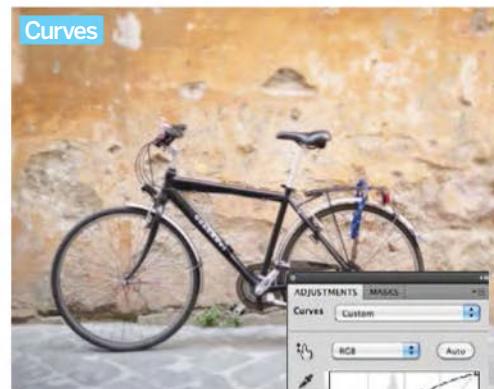
CURVES ADJUSTMENT

A simple curves adjustment for the red, green and blue channels work excellently to achieve the cross-processing effect

RED, GREEN AND BLUE

For the red and green colour channels, move the curve into an S shape. For the blue channel, move the top end of the line downwards, as shown here

Boost highlights and add blur for a high-key effect



PLAY WITH HIGHLIGHTS

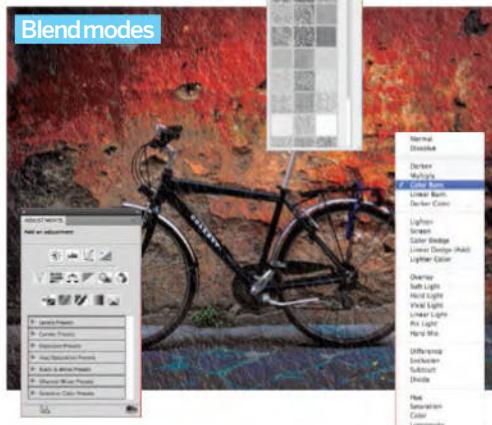
Creating high-key lighting effects is all about increasing the highlights in your photographs and enhancing the foreground.

Duplicate the Background layer, then hide the top layer. Click back onto the original background layer and add a subtle Gaussian Blur effect. Make both layers visible once more. Now add a Mask to the top layer. With a low-opacity, soft-edged brush, paint away the area around the foreground object showing the blurred underneath layer, adding a sense of depth. Now add a Curves Adjustment Layer (set to Lighter) in the top drop-down menu. If you want to strengthen the effect, continue to push the line upwards.



Add texture and Layer blends for more depth

02 MIX UP YOUR TEXTURES Creating striking images with depth is very simple. To begin, duplicate your Background Layer and go to the Layer Blend modes at the top of the Layers palette. Experiment with the options – Multiply and Vivid Light produce exceptional results, but for this image we have chosen to use Color Burn. Double-click on the top layer once the Blend Mode has been applied and check the Texture option from the Layer Styles dialog box. We used a Stucco texture. Then on top of the Layers we added a Curves Adjustment Layer, bringing back some highlights and enriching the texture effect.



Create clean and sleek advertising effects

Pen tool



03 CUT AND POLISH

For this effect, first isolate the object and then place it onto a white backdrop with a natural shadow. Sharpen and then brighten with a Curves Adjustment Layer. If you have a simple object to cut out, try the Quick Selection and Refine Edge tools. If, however, your object is more complex, then use the Pen tool. Trace your object and save the Path. Make it an active selection and lift it from the Background layer. Make the Path an active selection once more, add a transparent layer underneath and fill the selection with black. Flip and position the layer and blur it. Finally use the Gradient tool on a Mask to soften.

Your client and you

Make sure the communication between you and your client is clear and consistent. If they want you to represent their product, make sure you know this product and its use inside out so you can represent it accurately. Also keep in mind how your client might want to use or share your image.

Q&A Standout style

Web: www.bigbouquet.co.uk

Bio: Emma Davenport works alongside her husband Ian, shooting weddings and portrait shoots on location. They work with Nikon D700s and a wealth of prime lenses. Big Bouquet is in its fifth year of business.

How important is Photoshop to you in your professional career and how much do you use it?

Because of the volume of shots I have to process on a weekly basis, and the quick turnaround time I need for my clients, I now do a lot of my basic image tweaking in Lightroom. However, when I turn on Lightroom for work, Photoshop is always powered up too. It's become second nature! For those feature shots, or images that need a little bit more editing work, Photoshop gives me a far more polished finish.

What tools and techniques do you rely upon the most?
I'm a big fan of Actions - both those I've created myself and have bought off the shelf. I've got my own subtle 'S Curve' treatments saved, which I use to give my images a boost.

How did you develop your recognisable style, or was it a natural progression?

The way I process my shots has changed a lot over the years and I owe this to some of the great, commercial Actions available. The Photoshop Actions I regularly use come from Totally Rad (gettotallyrad.com), Kubota Image Tools (kubotaimagetools.com) but my absolute favourite are the limited-edition Vintage Film sets from Red Leaf Boutique (redleafboutique.ca). I always use most of these Actions as primers though. The beauty of most of them is that they're layered so you can manually tweak them. It's important to know you can't get good results unless your straight-out-of-camera image is interesting and technically competent.

Did any other artists or Photographers inspire you to stylise your work?

There's such a friendly network of photographers out there for those looking to perfect their image editing. For example, Totally Rad has its own Recipe site where other photographers share their own work and give guidance on how they achieved their 'look' (gettotallyrad.com/recipes/).

“Photoshop is always powered up. It's become second nature!”



Enhancements

The success of every enhanced image lies in its attention to detail. In photography, retouching portraits has become a crucial step in the process, with the ability to completely transform a shot. However it's all too easy to over-do it. The best attitude to have when retouching an image is that less is more – lots of small adjustments add up to make a big difference!

Professional image retouchers use a careful combination of Masking, Transforming and Blending modes in Photoshop to achieve flawless-yet-authentic results. When you begin to tackle this kind of task, you'll soon find yourself becoming very familiar with the Selection, Warp and Layer Mask tools.

The first things to focus on are the skin and hair regions – once you've perfected these key areas, you'll have the ultimate foundation to work from. The skin is especially important, but synthetic effects can strangle all realism in your image, and so excessive skin smoothing isn't encouraged. Instead, using Channels and a little patience, you can easily work out those blemishes manually. The hair region can cause similar headaches, but once you've mastered the techniques, it's easy to smooth out the strays.

If your shot is still in need of a lift, you can then start to manually apply some cosmetic enhancements. Using existing make-up as a marker, the grafting of eyelashes, face-shape changes and eye-colour alterations are just a few clicks away.

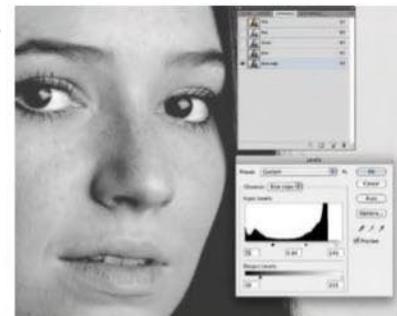
The real key to making realistic enhancements in your image is to be honest about what you have to work with. Here, we'll take you through the best ways to piece your portrait together and help you to fine-tune your application routine, for expertly retouched portraits in minutes.



Skin cleaning with Channels

Amateur retouching is littered with clumsy, synthetic-looking portraits with over-smoothed skin. The real trick isn't to try and cover up blemishes, but take them out completely, which takes just a little bit more time and attention.

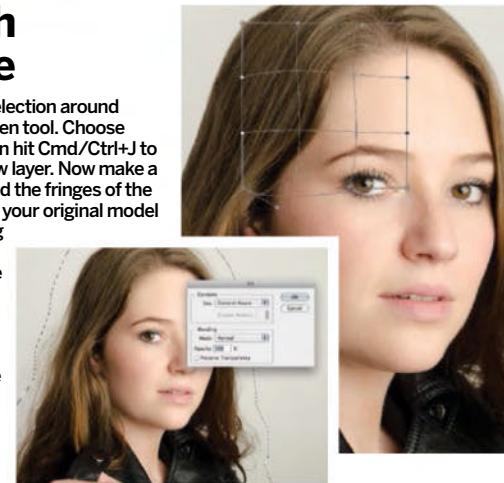
One way of achieving this is to use the Channels palette. Open up the palette and pick the channel that shows the greatest contrast in light value – which is Blue, in this example. Duplicate your Channel then apply levels to increase the contrast and enhance skin texture. Now copy and paste this duplicate channel into your layers palette; then activate your model layer and use the new Channel layer as a visual guide for editing blemishes. Using the Clone stamp zoomed in at 200% works well. Switch the visibility of your Channel on and off to preview the results.



Hair fixing with Content-Aware

To get rid of stray hairs, make a selection around the edge of the model using the Pen tool. Choose Select->Modify->Feather>5px, then hit Cmd/Ctrl+J to duplicate your selection into a new layer. Now make a new selection that extends beyond the fringes of the model's loose hairs, then activate your original model layer and press Shift+F5, applying Content-Aware Fill. This method is not always foolproof, so use the clone tool to clean up any strays.

You can further improve the look of hair with 'hair grafting'. Using the Lasso tool, select an area of hair then click Copy, Paste and place over the blemish. Hit Transform>Warp to reshape the new hair, and then integrate the edges with a Layer Mask to keep it looking natural.



Apply cosmetic enhancements

If your portrait needs a little more impact, you can even create your own subtle make-up using Photoshop brushes.

To enhance modest eye and facial make-up, create a new layer and set it to Darken Blend mode. Select a colour by sampling the existing make-up on your model, then activate the Brush tool. In the menu, apply a 10% Opacity with Multiply Blend mode; then begin painting on top to gently enrich the tones. You can also use this technique to enhance the lips.

Finally, add in a healthier complexion by applying a Selective Color Adjustment Layer. Tweak Magenta and Yellow sliders in the Reds preset for a natural glow.





Enhancing the eyes

Adjusting the colour and sharpness of the eyes is important for creating a unified image. This can easily be achieved using the Elliptical Marquee tool. Make a selection and then tweak the Hue/Saturation sliders. Now use Sharpen>Smart Sharpen to enhance the eyes.

Cleaning and shaping the eye region is also just as important. The eyelashes and eyebrows are essential areas in a head shot, so filling these will make for an immaculate final image. Simply copy and paste eyelashes, reposition and apply a Darken Blend mode. You can then edit any noticeable edges using a Layer Mask.



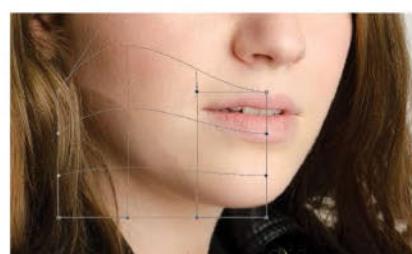
Fixing hair strands

To remedy any stray hairs lurking in your image, carefully apply the Clone Stamp tool, with the Blend mode set to Darken Blend. Zoom in to 200% and sample from even areas to even out the strands. However, this is a time-consuming process. Always remember that you can only do so much.

Modify face shape

Making subtle changes to the contour of a model's face is relatively simple and can make a big difference to a portrait. Start by making selections of the face edges; then modify using either the Warp option, or Filter>Liquify>Forward Warp tool. It's best to stick to small adjustments here, otherwise you might end up with some blurring.

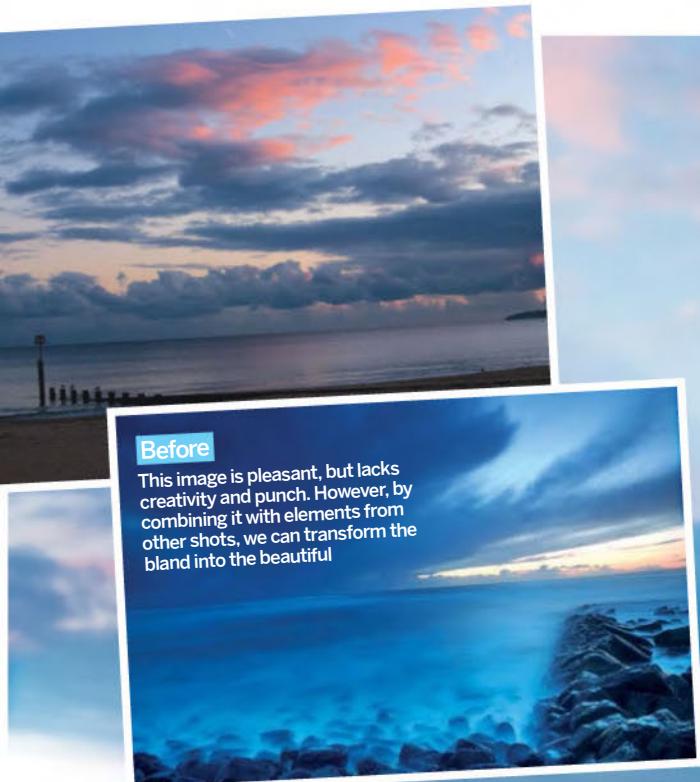
The new Photoshop CS6 Liquify tool brush sizes are much larger and can manipulate more pixels, for sharper warping. You can also try straightening the jaw by copying and pasting a selection of this into a new layer, then modifying with the Warp option. Finish up by carefully integrating all edges with an applied Layer Mask.



“The key to making realistic enhancements is to be honest about what you have to work with”



Editing your Nikon images



“The key to seamless photo blending is to match up the noise, sharpness levels, the colour and the lighting tones using as many Adjustment Layers as necessary”

Composites

When you're out on a photoshoot, it's all too easy to make a mistake. Horizons may be wonky, lighting not set up efficiently, or the rule of thirds may be forgotten resulting in a distinctly average photo. But, all of this can be corrected afterwards in Photoshop. You can even merge and composite several photos together to get the ultimate seamless image for your portfolio.

In the mini step-by-step below, we will show you how you can take the best parts of several photos and comp them together to achieve a brilliant, polished final image. No more dull skies, blurred foregrounds or poor conditions. We'll show you how to take specific sections within your photos and replace them with new and improved areas from another photo. Once the composition has been finalised, and the best parts of several photos pieced together, we'll show you how to blend the different layers, match up colour and lighting effects before flattening and saving the final image.

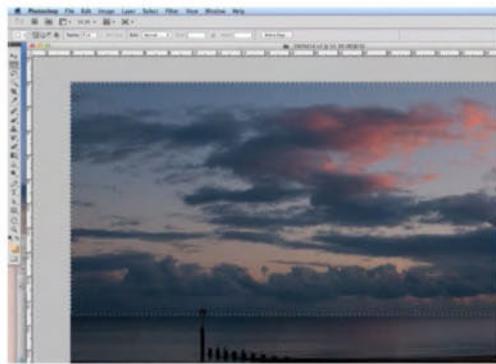
The key to seamless photo blending is to match up the noise and sharpness levels and the colour and lighting tones using as many Adjustment Layers as necessary. The procedure sounds complex but once you have mastered it, you will be producing fantastically creative compositions in no time. For the best results, start building up your image stock library. You never know when a sunny holiday sky or model shot can be used to fix or create a completely new scene.

Add in some interest

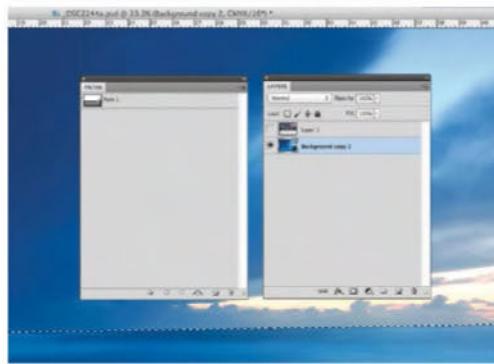
You may not want to replace the entire sky, just add in a bit more interest. To do this, simply drag the new areas onto the canvas, position and alter the layer's blend modes to suit and then mask away the layers edges to blend the images together.



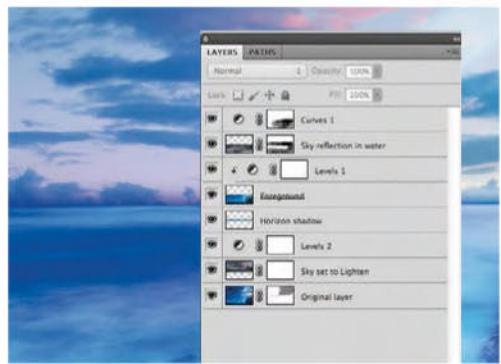
Swap in a sky with these simple steps



1 OPEN YOUR IMAGES With your main image selected, source all other elements. In this example we want to add in a new sky. Open all of the images into Photoshop and select the Rectangular Marquee tool, draw over the area of sky you want to place into your main shot.



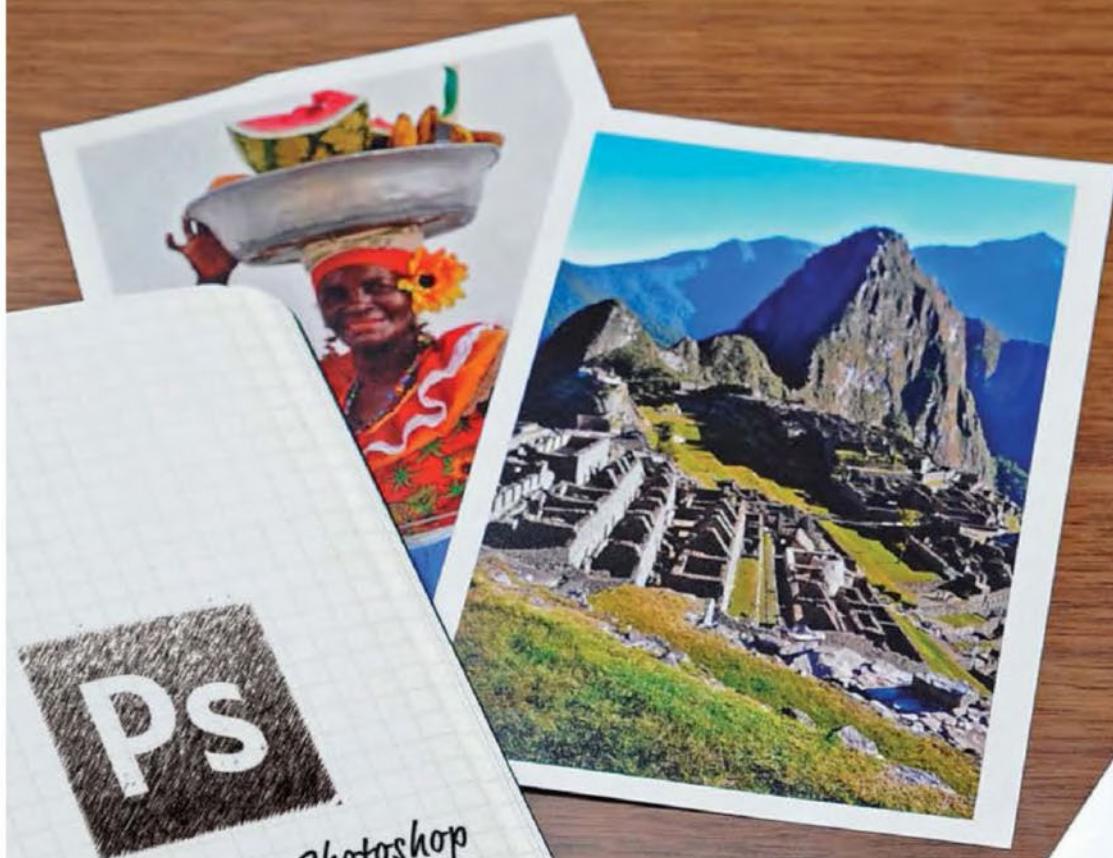
2 CUT OUT AND POSITION Drag and drop the selection into your main image. Resize and then hide this layer for now. Use the Pen tool to trace along the horizon line and land area. Save the Path and then make it an active selection. Now lift the selection onto its own layer.



3 MATCH SETTINGS Make all layers visible and place a Levels Adjustment Layer on each one. Clip it so it only affects the layer below. Tweak the settings to match the two layers' colours and brightness. Finally match noise settings and add a Curves Adjustment to the top.

5 minute Photoshop fixes for photographers

Improve your Nikon's photos in five minutes or less with our pick of the top editing tricks every photographer should know



Things to do in Photoshop

- ✓ Remove colour casts
- ✓ Fake depth of field
- ✓ Apply a Sepia tone
- ✓ Improve colours & sharpness
- ✓ Create better skies



While there is no doubt a lot to be said for settling down for a mammoth Photoshop session where you tinker and tweak an image into pristine glory, there are times when you just want a quick solution. And to be honest, a lot of common problems can be sorted out in a matter of minutes.

Over the next few pages we are going to be sharing some of the techniques we use when time, patience or concentration is in short supply. We'll be fixing obvious problems such as dull colour or soft edges in

addition to looking at creative solutions for peping up an image that is lacking impact as it is. Sometimes a photo will only ever be okay no matter how bright its colours or how in focus it is. However, by giving it a sepia effect, for example, you are able to create an entirely different image that has the ability to really stand out.

Each of our fixes is detailed in three easy-to-follow steps, most with a short introduction on the process. So load up Photoshop or Elements and get started on pixel-perfect pictures now!

“You can create entirely different images that have the ability to really stand out”

Correct colour casts

Pull a natural hue out of a poorly coloured picture

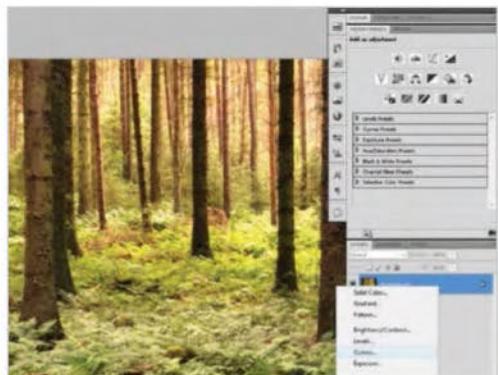
We may not notice the difference between, for example, the light generated by a fluorescent bulb and a halogen one, but photographs sure do, as images taken with different light sources will show great differences in colour.

Not accounting for this sensitivity can generate an image with a distinct tint. These off-colour photos are known as 'colour casts' and are usually the result of a photograph taken with an inaccurate white balance setting.

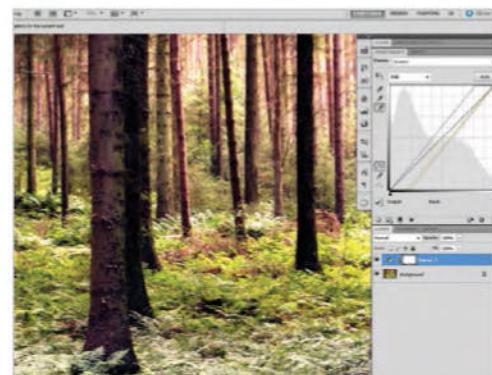
When out on a shoot, you can compensate for by this setting the white balance on the camera, or letting a sensor do it for you.

But do not fear if you have already snapped away without white balancing. Once you are back at your editing suite, you can correct this is to remap the white, grey or black points, as this allows the colours to settle back into the more expected values.

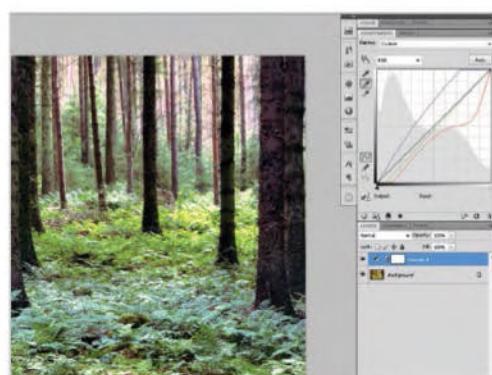
Follow the three simple steps below to easily remove all but the most drastic of colour casts and get the tones just right for your picture.



01 ADD ADJUSTMENT LAYERS Begin by adding a Curves adjustment layer. Look for the black-and-white circle icon at the foot of the Layers palette. Clicking on that icon activates a list of available adjustment layers, then simply select the Curves option from there.



02 BLACK AND WHITE POINTS To the left of the graph you'll see three eyedropper icons. Click the black eyedropper and then a part of your image that's completely black. Likewise, use the white eyedropper in the same way to sample the brightest pixels to set the white point.



03 KILL THE COLOUR CAST Using the grey eyedropper is the most effective and most difficult step in the process. The goal is to sample a pixel that should be 50% grey. This may take a few attempts before getting a good setting. If the first click yields poor results, try another area.

What you'll need...

Photoshop
Starting photo

We used...

Photoshop CS5

You could try...

Photoshop CS and above
Photoshop Elements

What you'll learn...

Remove colour casts
Fake depth of field
Apply a sepia tone
Improve colours and sharpness
Create better skies

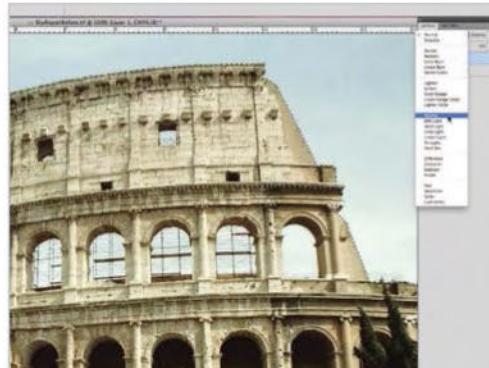


Better, brighter skies

Chase away those grey days with this easy sky repair



01 SELECT A SKY Begin by using the Quick Selection tool to select your sky area. If the tool grabs areas of the image you don't want, hold down the Alt key and paint over the area. Depending on your version, the selection can be edited further by using the Refine Edge button.



02 NEW MASKED LAYER Press the Add new layer button at the foot of the Layers palette. The selection is converted into a mask for this layer. This will limit the effect to the sky, and having it on a new layer protects the original from alterations. Set this layer's blending mode to Overlay.



03 FADE AWAY THE GREY Set your Foreground colour to sky blue. Grab the Gradient tool and use the Foreground to Transparent preset. Set the mode to Linear, click the top of your canvas and drag down towards the horizon to create a blue gradient that fades away.

Boost colours and sharpness

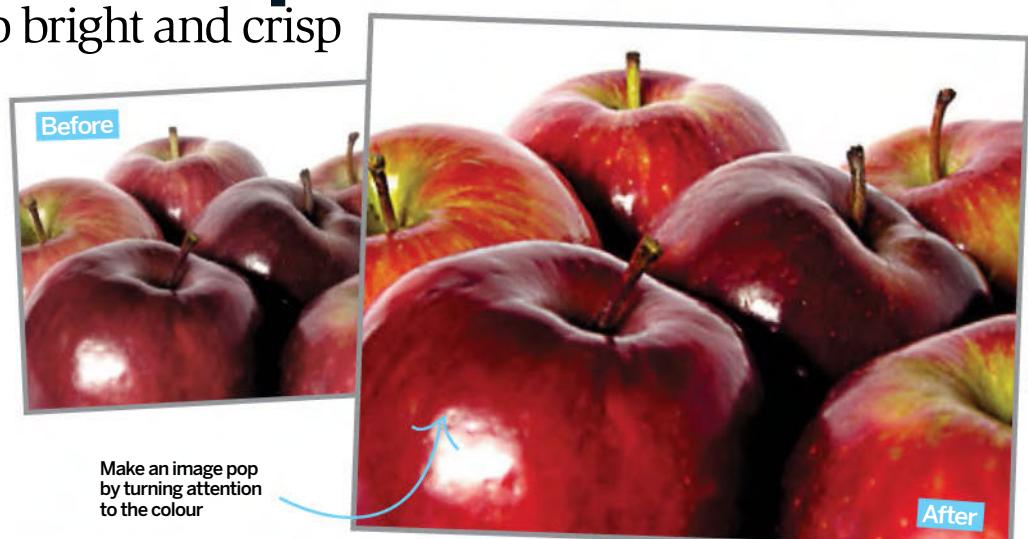
Go from dull and blurry to bright and crisp

Colour and detail are two elements that can make or break any photo. If one is missing, the other one better be something special to compensate. If both are weak, you know you are in trouble.

But all is not lost! The neat little tricks we show below can do wonders for a shot that is a little too dull or a bit soft. They can infuse the image with life and give it a pop that demands attention.

That being said, this is one editing trick that cannot perform miracles. If the photo is devoid of colour and detail, this won't help solve the problem. There has to be some basic elements to work with so bear this in mind when out on a shoot.

However, if your confident your image only needs a slight tweak to uncover its inner beauty, we encourage you to try this technique out.



01 PULL OUT THE DETAILS Create a copy of the Background layer to work with. Go to Filter>Sharpen>Unsharp Mask and work with the settings until you can see details from the image. In this example we used an Amount of 72%, Radius of 4.8 pixels and Threshold of 5 levels.



02 ADD VIBRANCE Add a Vibrance adjustment layer by clicking the Vibrance icon in the Adjustments palette. Pump up the Vibrance slider then increase the saturation. Use the layer mask that's automatically added to paint out the adjustment where it's required.



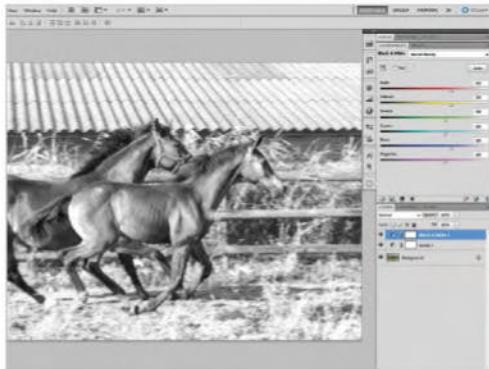
03 FINAL POP Now create a composite layer on the top of the stack by pressing Cmd/Ctr+Alt+Shift+E, and then on this new layer go to Filter>Other>High Pass. Enter a setting of 3 pixels. Change the layer's blending mode to Overlay to give a final touch of edge sharpening.

Rich sepia tones

This sepia trick allows for maximum control



01 ADD ADJUSTMENT LAYER Begin by adding a Levels adjustment layer. In the Histogram palette, pull the outer slider handles in to meet the edges of the chart. Take the midpoint slider and move it to the left to brighten the image a bit so that it will work when desaturated.



02 BLACK AND WHITE Next add a Black and White adjustment layer over the Levels adjustment. In the Adjustments palette, look for the drop-down menu near the top. These are presets used to create different black-and-white effects. Here we used the Neutral Density settings.



03 PHOTO FILTER Add a Photo Filter adjustment layer. From the filter drop-down, select the Sepia option. If the colourisation isn't strong enough to suit you, increase the Density slider to enhance the effect. Try the Preserve Luminosity checkmark both on and off.

Fake focal blur

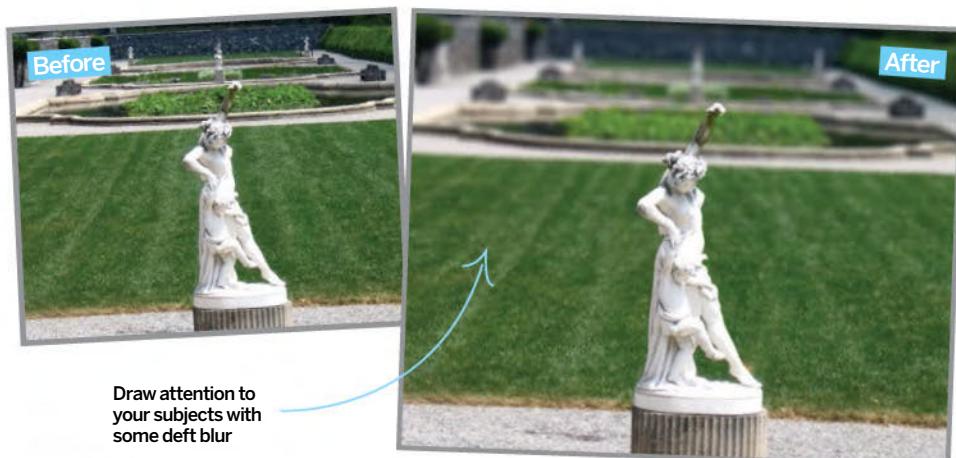
Use a manufactured focal blur to make your subjects stand out

To draw attention to your subject you need to remove focus from the background.

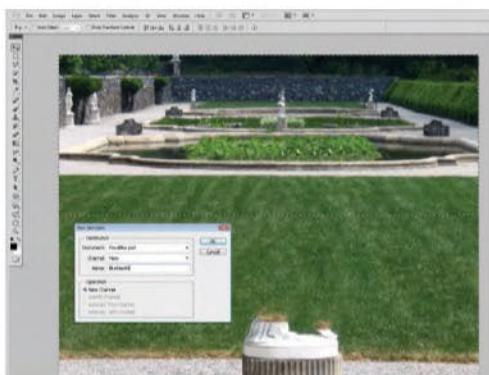
Different lenses have different focal lengths that create different focal blurs. One way to enhance the focus of a photo's subject is to manufacture focal blur around it. This technique shows a precise method for doing just that.

A frequently overlooked feature of Photoshop is the Lens Blur filter, which not only does an outstanding job of simulating focal blurs, but can even be set to read a depth map that's been saved to a channel. This enables Photoshop to calculate a more accurate effect.

“A frequently overlooked feature of Photoshop is the Lens Blur”



01 ISOLATE THE SUBJECT Create a copy of the background, then form a selection around the subject using the tool of your choice. We used the Pen tool because of its accuracy. Once done, press Cmd/Ctrl+J to copy the subject to its own layer, then turn off its visibility.



02 REMOVE THE SUBJECT On the copy layer, use the Clone Stamp tool to roughly remove the subject. Press Q to enter Quick Mask mode and use the Gradient tool to drag a white to black linear gradient down from the horizon to the subject. Press Q again and save the selection.



03 LENS BLUR Go to Filter>Blur>Lens Blur. In 'Depth Map', set the Source to the selection you saved in the previous step. If the blur effect appears backwards, check 'Invert'. Adjust the settings to get a suitable blur and press OK. Turn the visibility of the subject layer back on.



Get the best from NEF

Nikon's Capture NX 2 software offers powerful editing tools to help you easily get the most from your photographs

Metadata editor

This window allows you to add keywords and copyright information to your images, so that when you output your processed files to JPEG or TIFF format, this information is embedded into them

Folders + Browser

The Folders window is very helpful in aiding you to navigate to specific locations on your hard drive, while the Browser window allows you to see other images in the current folder

Photo Info

The most important component here is the Histogram, which provides you with an exact visual display of your image. Use it to keep an eye on how changes you make are affecting the photo

Control Points

One of the standout features of Capture NX 2 is the range of Control Points, which offer a powerful means of making precise, localised adjustments to your images

NX 2 Tools

Capture NX 2 features easy to use – and vital – editing tools like the Straighten Tool and Crop Tool, easily accessed at the top-right of the interface for you to open and use quickly

Edit List

On the right-hand side of the Capture NX interface, the Edit List window allows you to make and keep track of any adjustments made to your images, for a very useful overview



“Capture NX 2 software is designed to assist you in getting the best results from a NEF file as possible”

For the very best possible quality from your Nikon camera, you should try to shoot in the NEF format as often as possible. This is your Nikon camera's RAW format, and offers the very best quality that your camera's sensor is able to produce. The camera's processing algorithms do as little to the file as possible, meaning that key image ingredients like the white balance and exposure can still be adjusted in precise detail after the image has been captured and saved to the memory card.

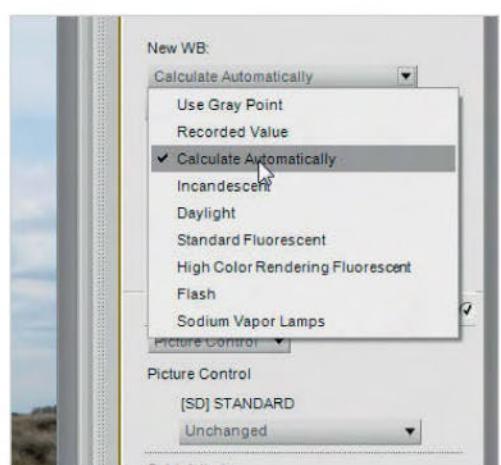
The only slight downside of shooting in RAW mode, as opposed to JPEG mode, is that the lack of processing conducted by the camera means that you need to process the files in special image editing software; they are not ready to use straight out of the camera like JPEG files are.

However, the control that you as a photographer can exert over the images when they have been captured in the RAW, or NEF, format is so extensive that vastly superior results can be achieved, and Nikon's Capture NX 2 software is designed to assist you in getting the very best results from a NEF file as possible.

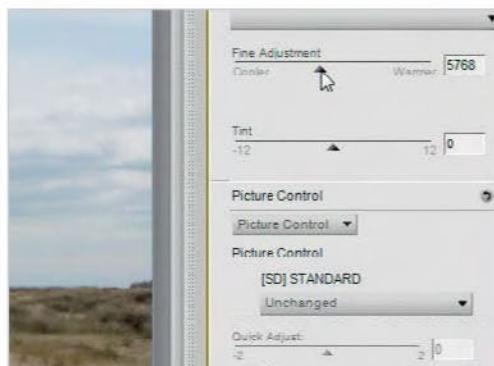
Of course you don't have to use Capture NX 2 to process your NEF files – any software designed to process RAW files will work, but Nikon's proprietary software offers a few key features that are very appealing. There are also many Nikon users who believe that Capture NX 2 handles the RAW data from a Nikon camera better than the third-party software, producing better colour definition and image clarity. Follow on with this tutorial and you'll learn how to get the best possible results for your images.

Quickly improve white balance and exposure

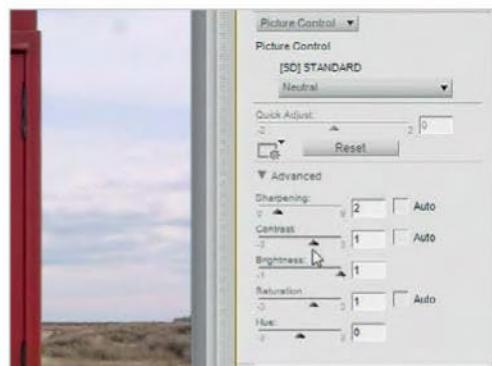
Use Nikon's Capture NX 2 software to override and correct the decisions that you and your camera made during your photo shoot



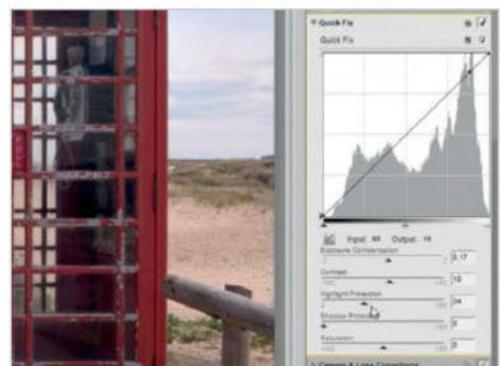
01 NEW WHITE BALANCE Start by going to the Camera Settings window at the right of the display. A good starting point when changing the white balance that was used at the time of capture is to click on Calculate Automatically in the drop-down menu under New WB.



02 FINE ADJUSTMENT Capture NX 2 will generally do a good job of automatically calculating a new white balance but you can fine-tune the results using the Fine Adjustment slider. There's also a Tint slider that needs to be used carefully or you will introduce unpleasant colour casts.



03 ADVANCED PICTURE CONTROL Change the Picture Control in the menu to one of the presets available – Standard, Neutral, Vivid, Monochrome, Portrait and Landscape. Then use the Advanced sliders to adjust the Sharpening, Contrast, Brightness, Saturation and Hue.



04 QUICK FIX WINDOW Beneath the Camera Settings window at the right of screen is the Quick Fix window. Here you can deal with the image's exposure. Particularly useful are Highlight Protection and Shadow Protection allowing you to control and recover detail.



Editing your Nikon images

Pick a Filter Hue

For the majority of images you convert to black and white, you'll probably want to keep this slider fairly low. Try starting it at 50 and then move it either way to see what looks best. Ensure that the Color Filter Strength slider is reasonably high or you won't see the difference.

High Contrast

With black and white images, it's often best to aim for higher contrast rather than lower contrast. Therefore, put the Contrast slider up high to begin with and only lower it if you feel it really doesn't suit the image. Then adjust the Brightness slider to suit.

Add a tone

Click New Step at the right of the screen beneath the Black and White Conversion window and then go to Filter>Colorize. Choose a colour and set a low Opacity and then change the Blending Mode to Overlay. This allows you to add a subtle tone to your black and white image.

Go monochrome

“Use Nikon Capture NX 2 to convert your images into monochrome”

Filter menu

Go to the Filter menu at the top of the interface or press Cmd/Ctrl+Shift+B to access the Black and White Conversion feature

Filter Hue

The Filter Hue slider allows you to control how the colours in your image respond when converted to black and white. Simply move the slider and use your eye to see the resulting effect

Color Filter Strength

This controls the strength of the Filter Hue slider. Setting it to 0% will cancel out the Filter Hue slider completely. Play around with it until you get the setting that looks right to you

Brightness and Contrast

Use these sliders to control how light or dark your black and white image is, and how much contrast it has

Add impact to skies

Use the Selection Gradient Tool in Capture NX to boost the drama in clouds, giving them a lot much more impact

01 SELECTION GRADIENT TOOL The Selection Gradient Tool is among the group of tools located at the top-right of Capture NX's interface, and is the second icon from the right. You can also press G on the keyboard to access it quickly, though. Ensure that the + is checked rather than the -.

02 PLACE GRADIENT Simply click and drag a vertical line downwards to cover the sky. For the best results, go slightly beyond the point at which the sky ends. If you need to change the size of the gradient you can use the – symbol next to the Selection Gradient Tool at the top-right to do so.

03 SELECT ADJUSTMENT Click on Select Adjustment. From the menu that appears, you can now select the type of adjustment that you want to make. Nikon Capture NX 2 allows Lightness, Chroma and Hue (LCH) adjustments to be made, so you can adjust contrast without affecting colour tone.

04 USE THE CURVES A window will now appear allowing you to make your adjustments based on the selection. Make a gentle S curve in order to darken the sky and boost its contrast. Thanks to the capabilities of Capture NX 2, this won't affect the colour of the sky at all.

170 THE NIKON CAMERA BOOK



Make localised adjustments

Capture NX 2 allows for simple image editing with control points



01 COLOR CONTROL POINT The Color Control Point in Capture NX 2 can be found at the top-right of the interface, but you can also hold Shift+Cmd/Ctrl+A to access it directly from your keyboard. There are in fact various control points in NX 2, but the Color Control Point is particularly useful.

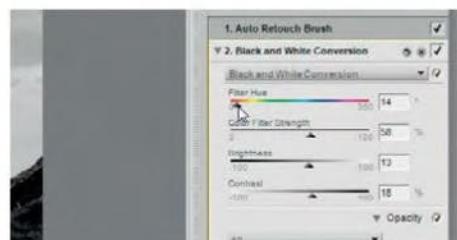


03 CONTROL POINT SIZE ADJUSTMENT The first of the four sliders available to you simply controls the size of the Control Point so that you can influence the range of pixels that it covers. However, the best option is often to simply add more Control Points to it instead, so bear this in mind.

04 MORE CONTROL POINTS Intrinsic to the flexibility of the Control Points is that you can place several of them on your image to affect different areas. Four Control Points here have made it possible to transform the appearance of the image with very little time or effort required.

3 of the best...

Quick image editing tools in Capture NX



REMOVE DUST AND BLEMISHES

Thanks to the Auto Retouch Brush, you can very quickly deal with common image issues, including sensor dust and skin blemishes. Simply draw over the problem area, which will be indicated in red, and Capture NX 2 will intelligently fix the pixels.



STRAIGHTEN HORIZONS

Slightly uneven horizons are bound to happen from time to time, even if you are careful to use a tripod as much as possible. Fortunately, Capture NX 2 features a simple Straighten Tool. Use it to tell NX 2 where the horizon is and the software will make it straight for you.



CROP THE IMAGE

Many images benefit from a slight crop. You can choose between a Free Crop, allowing you to crop the image without restriction, or be guided by a Fixed Aspect Ratio crop using one of Capture NX 2's presets. Try repositioning your subject a third of the way across.



Add light rays in Photoshop

See how to use Photoshop to add dramatic light rays to a cloudy sky

There are few things in photography that are as awe-inspiring as the moment when the clouds part, allowing defined rays of sunlight to reach down and touch the ground.

Capturing these moments on camera can be tricky, however, and waiting hours on a seashore for them to appear can be a fruitless endeavour. Even if you are lucky enough to witness these beams, sometimes the drama can seem unimpressive and bland in an image.

Luckily it is possible to re-create these rays of light in editing software. In this tutorial we will take a look at how to take portions of an already dramatic sky and transform them with piercing rays of light.



“It is possible to re-create dramatic rays of light in editing software”



01 SELECT THE SKY Begin with an image that contains a dramatic sky, like this image of a lighthouse. Use the Quick Selection tool to select the sky, and deselect any of the building or ground area the tool inadvertently grabbed.



02 CREATE CONTRAST Press Ctrl/Cmd+J to copy the sky to a new layer. Go to Image>Adjustments>Levels and pull the outer handles of the Input Levels inwards, but skewed towards the right to add contrast in the clouds.



03 ADD BLUR Create the light rays by going to Filter>Blur>Radial Blur. Set the Blur Method to Zoom and the Amount to 100. Move the blur centre to the top, slightly in from the right. Run this filter twice.



04 INCREASE CONTRAST Set the layer's blending mode to Screen, then run the Levels adjustment again. Increase the contrast, but try to retain the soft look of the light rays. If needed, transform the layer to extend the light.



05 MASK THE EFFECT Add a layer mask and use a soft brush with black paint to remove the effect from in front of the lighthouse. Set the brush Opacity to 50% and build up the paint strokes, gently avoiding hard edges.



06 REPEAT THE EFFECT Select a smaller portion of the sky near the horizon and repeat the effect on a smaller scale. When using the Radial Blur filter, move the blur centre to make the rays parallel with the larger set.



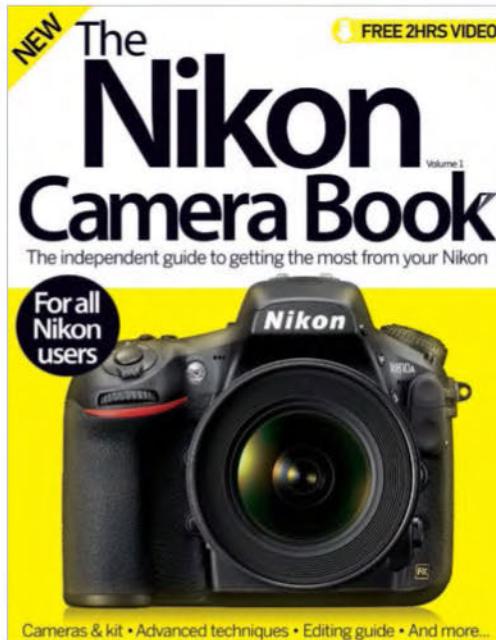
07 REVERSE THE MASK Add a layer mask to the new layer, but this time fill the mask with black and use a white brush to reveal the rays in specific areas. The light should only be coming from clouds that are already bright.



08 ENHANCE CONTRAST Enhance the effect by adding a Brightness/Contrast adjustment layer over the background. In our image, we set the Brightness to -17 and the Contrast to 20 to accentuate the light effect.

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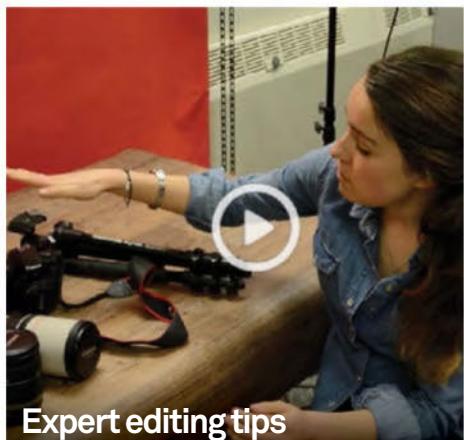
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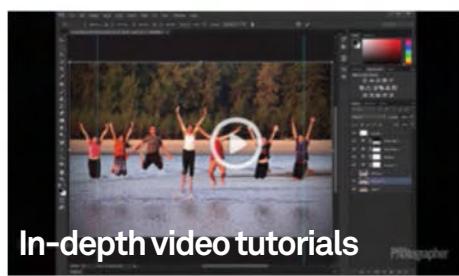
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